

MANUFACTURERS' RECORD

A
WEEKLY SOUTHERN INDUSTRIAL
RAILROAD AND FINANCIAL NEWSPAPER.

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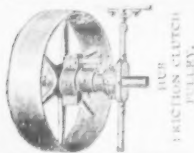
Advertisements under these two headings will be published free of charge in the MANUFACTURERS' RECORD. Such advertisements must not exceed four lines, or about twenty-five words, and four consecutive insertions will be given in our columns without charge. Replies addressed in our care will be forwarded to advertisers. The extended circulation of the MANUFACTURERS' RECORD and the care with which its pages are read make this opportunity one of exceptional value. We offer it freely to our patrons and friends, and ask them to make liberal use of it.

THE FULL TABLE OF CONTENTS WILL BE FOUND ON PAGE 310.

\$4.00 per year.
Single Copy
10 Cents.

VOL. XXII.
No. 15

Baltimore, November 11, 1892.



THE JAMES SMITH WOOLEN MACHINERY CO.

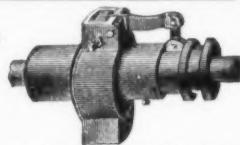
WOOLEN MACHINERY AND CARD CLOTHING OF EVERY DESCRIPTION,
SHAFTING, HANGERS, PULLEYS AND FRICTION CLUTCHES.

Hub Friction Clutch Pulleys will run 1,000 Revolutions.

Made in sizes from 2 up to 1,000 horse-power.
More than ten thousand in use.

411 to 421 Race Street,

PHILADELPHIA, PA.



FRICTION CUT-OFF COUPLING.

SPECIAL NOTICE.

BRANCH OFFICES:

114 Queen Victoria St., London, E. C., Eng.
100-104 W. Washington St., Chicago, Ill.
203 St. James Street, Montreal, Can.
201-2-3 Congress St., Boston, Mass.
610 N. Fourth St., St. Louis, Mo.
26 S. Water St., Cleveland, Ohio.

Two handsome photo-engraved display sheets entitled
"RECENT IMPROVEMENTS IN AIR COMPRESSORS,"
"RECENT IMPROVEMENTS IN ROCK DRILLS,"

mailed free to any one who will cut out this advertisement and mail it to us with his name and address.

THE INGERSOLL-SERGEANT DRILL CO., No. 10 PARK PLACE, NEW YORK.

The BROWN HOISTING & CONVEYING MACHINE CO., CLEVELAND, OHIO, U. S. A.

MANUFACTURERS AND SOLE PROPRIETORS OF THE PATENTS, APPLICATIONS AND DESIGNS UNDER WHICH THE BROWN HOISTING AND CONVEYING APPARATUS AND VARIOUS TRAMWAYS FOR IT ARE BUILT.

NEW AND COMPLETE LABOR-SAVING SYSTEMS FOR HANDLING OF MATERIALS OF ALL KINDS. MACHINERY SPECIALLY ADAPTED FOR HANDLING PHOSPHATE.

The Brown Patent

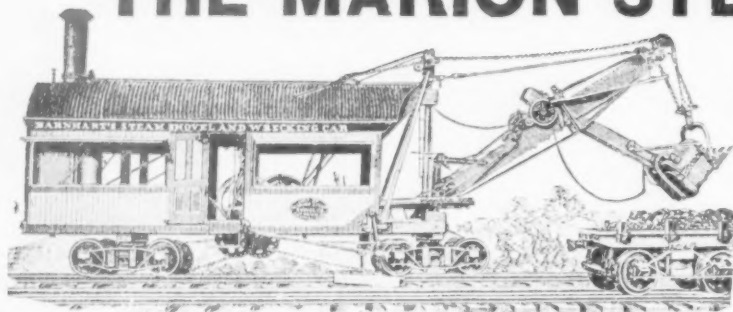
Cable Tramway System.
Suspended Beam Tramway System
Bridge Tramway System.

Shed Tramway System.
Warehouse Tramway System.
Sewer Machine Tramway System.
Continuous Elevated Tramway System

THE FAYETTE-BROWN PATENT AUTOMATIC FURNACE HOIST.

THE MARION STEAM SHOVEL CO.

MANUFACTURERS OF

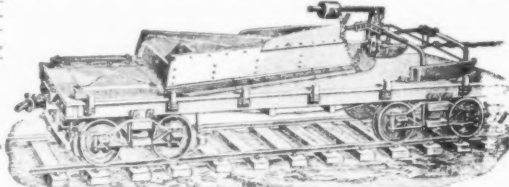


Barnhart's Steam Shovels, Dredges, Ditching Dredges, Railroad Ditchers, Wreckers, Ballast Unloaders, etc. Our Steam Shovels are largely used on Railroads and by Contractors, Brick Manufacturers, and in excavating Iron Ore, Handling Stock Ore, Stripping Coal Fields and Stone Quarries, and are a most desirable machine for any use where excavating machinery can be used. All of our machines guaranteed to give entire satisfaction; otherwise may be returned at our expense. For illustrated Catalogue, Photographs, and any further information desired, address

THE
Marion Steam Shovel Co.

801 WEST CENTRE ST.

Marion, Ohio.



BARNHART'S BALLAST UNLOADER. No center rib or leader is required.

THE SOUTHERN SAW MFG. CO.

ATLANTA, GA.

Manufacturers of

Highest Grade Saws

Also Dealers in Saw Mill Specialties.

OUR INSERTED TOOTH SAWS have been thoroughly tested on all feeds and in all kinds of timber. Saw mill men concede it to be the strongest and easiest adjusted on the market. We guarantee price and quality.

Prompt Attention Given to All Kinds of Repair Work and Satisfaction Guaranteed.
Write for Catalogue and Prices.



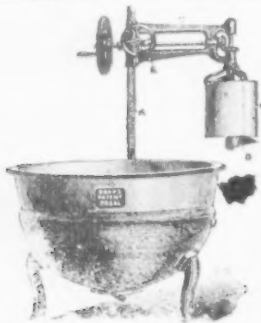
—THE LEADING HOUSE—

H. WM. DOPP & SON,

MANUFACTURERS OF

Soap Makers' and Butchers' Machinery,

462 Ellicott Street, Buffalo, New York, U. S. A.

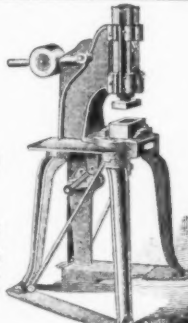


Swing Foot Lever Soap Presses, Nos. 1 and 2. Combination Foot and Steam Power Soap Presses. Improved Soap Remelting Kettles, either with or without 5 Horse Power Engine attached. Seamless Steam Jacket Kettles. Steam Jacketed Toilet Soap Kettle, with Agitation three different styles. Steam Jacketed Rendering and Refining Kettles. Steam Jacketed Kettles for Confectioners.

ILLUSTRATED AND DESCRIPTIVE CATALOGUE ON APPLICATION

Improved Lard Dryer, Mixer and Cooler. Steam Jacketed Vacuum Pans. Hotel Kettles for Boiling and Steaming in Hospitals, Institutes, Barracks, Hotels, Asylums, &c., &c. Steam Jacketed Glue Pot Heaters. Iron Soap Cutting Frames, with Adjustable Wires. Soap Dies, for Stamping and Moulding the Soap. Hand Stamps, Steam Traps, with Balanced Valve, &c.

MENTION THIS ADVERTISEMENT



PERFORATED METALS OF EVERY DESCRIPTION BY THE HARRINGTON & KING PERFORATING CO. CHICAGO.

EASTERN OFFICE, No. 284 PEARL STREET, Cor. Beekman, NEW YORK.

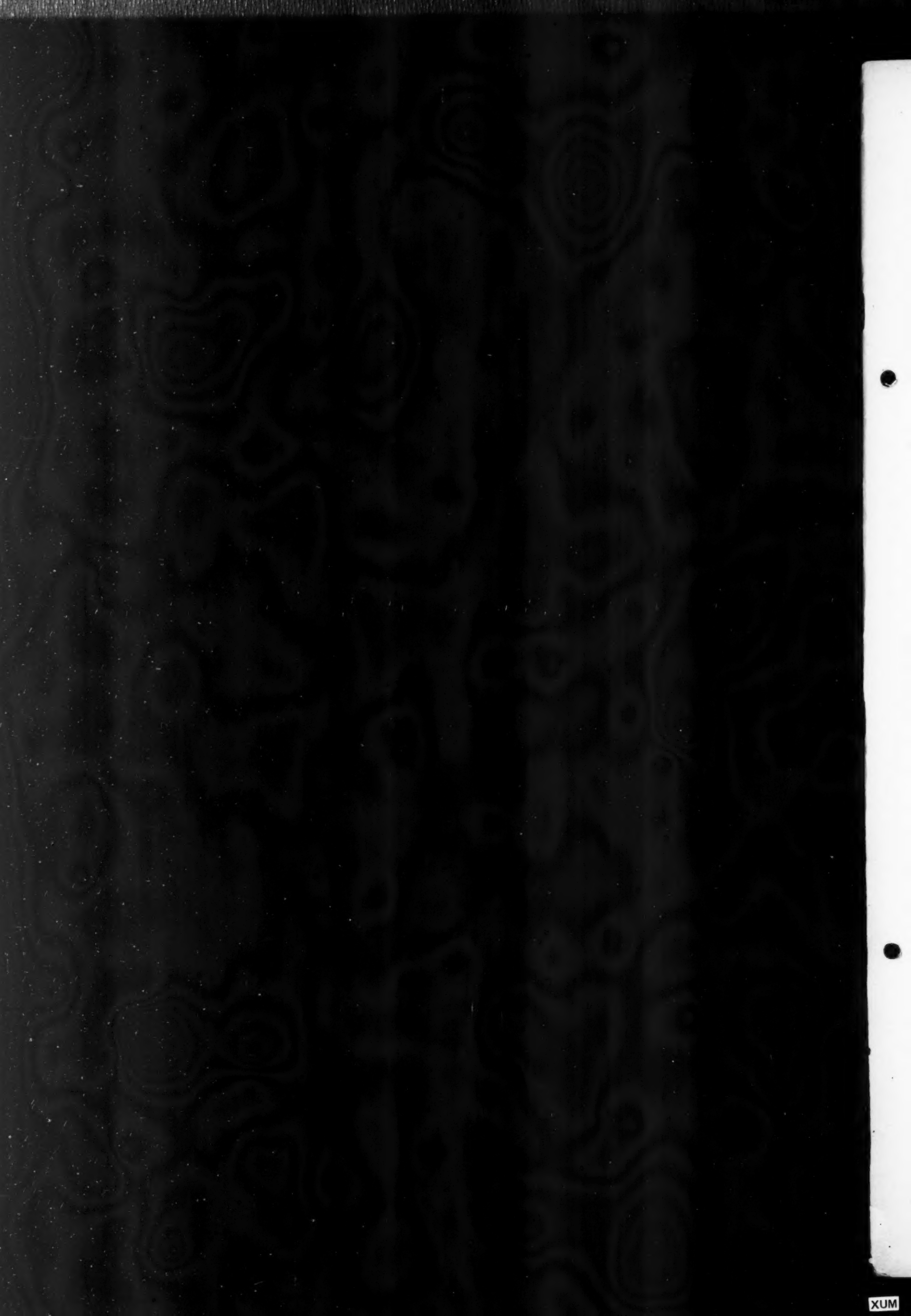
Clean Your Boiler Tubes with Abrams Expansion Flue Brush.

Write ST. LOUIS STEEL WIRE BRUSH CO.
ST. LOUIS, MO., for Circular.

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is the most thorough, complete and authentic source of information on Southern industrial affairs in existence. The subscription price is only \$4.00 a year. Some of our subscribers think every issue is worth that much. Try it for a year. Send in your subscription to-day. Don't wait until to-morrow; you may forget it.





CLASSIFIED INDEX OF ADVERTISERS.

FOR "ALPHABETICAL INDEX" SEE PAGE 46

Acid Chambers.

Charleston Lead Co., Charleston, S. C.
Herman Poole, New York, N. Y.
Valk & Murdoch Iron Works, Charleston, S. C.

Air Compressors.

M. C. Bullock, Mfg. Co., Chicago, Ill.
Ingersoll-Sergeant Rock D. Co., New York, N. Y.
Morris Machine & Iron Co., Dover, N. J.
Rand Drill Co., New York, N. Y.
Sullivan Machinery Co., Chicago, Ill.

Anti-Friction Metals. [See *Phosphor-Bronze*.]

Paul S. Reeves, Philadelphia, Pa.
Amer. Imp. Anti-Friction Metal Co., Mobile, Ala.

Architects.

Collins & Hackett, Staunton, Va.
Edward Barrath & Co., Chicago, Ill.
Teague & Mayre, Newport News, Va.
A. G. Bauer, Raleigh, N. C.
Gustaf Bottiger, Winston, N. C.
D. G. Zeigler, Charleston, S. C.
Charles H. Read, Richmond, Va.
Wilson & Huggins, Roanoke, Va.
Griswold & Nunan, Owensboro, Ky.
C. R. Makepeace & Co., Providence, R. I.
Lockwood, Greene & Co., Boston, Mass.
Drew, Baldwin & Co., New York, N. Y.

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E. M. Hopkins, Savannah, Ga.
Toledo Wire & Iron Works, Toledo, O.
Toledo Cornice Works, Toledo, O.
Cushman Iron Co., Roanoke, Va.
Champion Iron Co., Kenton, O.
J. E. Bolles & Co., Detroit, Mich.
Fred. J. Meyers Mfg. Co., Covington, Ky.
T. H. Brooks & Co., Cleveland, O.
P. Duvinage & Co., Brooklyn, N. Y.

Artisan Well Tools and Supplies. [See *Well Tools and Supplies*.]**Babbitt Metal.** [See *Anti-Friction Metal*.]**Bankers and Brokers.**

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L. Breckinridge Cabell, New York, N. Y.
Godfrey & Train, New York, N. Y.
Hopkins, Dwight & Co., New York, N. Y.
Edward Morton & Co., New York, N. Y.
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von Hemert & Co., Roanoke, Va.
John L. Williams & Son, Richmond, Va.
Middendorf, Oliver & Co., Baltimore, Md.

Barrel Machinery. [See *Woodworking Machinery*.]

Crescent Mfg. Co., Cleveland, O.
E. & B. Holmes, Buffalo, N. Y.

Bath Tubs.

Haines, Jones & Cadbury Co., Philadelphia, Pa.

Bearings.

N. American Metal Co., Long Island City, N. Y.

Belting.

N. Y. Belt & Pack Co., Ltd., New York, N. Y.
E. M. Freese & Co., Galion, O.
Cameron & Barkley Co., Charleston, S. C.
Henry Popham & Son, East Newark, N. J.
Main Belting Co., Philadelphia, Pa.
Chesapeake Belting Co., Baltimore, Md.
Gandy Belting Co., Baltimore, Md.
Shultz Belting Co., St. Louis, Mo.
Smith-Courtney Co., Richmond, Va.
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American Supply Co., Providence, R. I.

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H. W. Caldwell & Son Co., Chicago, Ill.
F. H. C. Mey, Buffalo, N. Y.
Jeffrey Mfg. Co., Columbus, O.
Link-Belt Engineer'g Co., Nicetown (Phila.), Pa.

Belt Lacing.

American Supply Co., Providence, R. I.
Henry Popham & Son, East Newark, N. J.
Shultz Belting Co., St. Louis, Mo.
Bristol's Mfg. Co., Waterbury, Conn.

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Adams & Woodson, Lynchburg, Va.
Monroe Mfg. Co., Lima, O.

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N. England Vent. & Heat Co., Providence, R. I.
West & Branch, Richmond, Va.
Davidson Ventilating Fan Co., Boston, Mass.
Geo. P. Clark, Windsor Locks, Conn.
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Sherwood Mfg. Co., Buffalo, N. Y.
Peuberth Injector Co., Detroit, Mich.
Jenkins Bros., New York, N. Y.

Boiler Compound.

Kelrhahn & Co., Baltimore, Md.
H. H. Mansfield, New York, N. Y.

Boiler Fronts and Fittings. [See *Boilers*.]

Vulcan Iron Works Co., Toledo, O.

Boilers. [See *Machinery*.]

Aultman & Taylor Machinery Co., Mansfield, O.
S. C. Forsaith Machine Co., Manchester, N. H.
Delbert Engineering Co., Ltd., New Orleans, La.
W. C. Leffel Co., Springfield, O.

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Skinner Engine Co., Erie, Pa.
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Coaldale Brick & Tile Co., Birmingham, Ala.

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C. & A. Potts & Co., Indianapolis, Ind.
Anderson Fdy. & Mch. Wks., Anderson, Ind.
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Frey-Sheckler Co., Bucyrus, O.
Chambers Bros. Co., Philadelphia, Pa.
Fletcher & Thomas, Indianapolis, Ind.
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Texas Coal Tar & Asphaltum Co., Dallas, Tex.

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Howard Hyd. Cement Co., Chattanooga, Tenn.

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[See *Hoisting Machinery*.]
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Vulcan Iron Works Co., Toledo, O.
Marion Steam Shovel Co., Marion, O.
Bucyrus Stn. Shovel & Dredge Co., Bucyrus, O.
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Marion Steam Shovel Co., Marion, O.
Copeland & Bacon, Philadelphia, Pa.
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M. C. Bullock Mfg. Co., Chicago, Ill.
General Electric Co., New York, N. Y.

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General Electric Co., New York, N. Y.

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Cap. 1500
cubic yards
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The "LITTLE GIANT EXCAVATOR"
Especially well adapted for all contract work



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Manufacturers of
Dredges and
Excavators.
Boiler Fronts and
Railroad Castings.

Our "GIANT"
EXCAVATOR,
Weight 40 tons, ca-
pacity 2000 cubic
yards per day.

Write for
Descriptive
Matter.



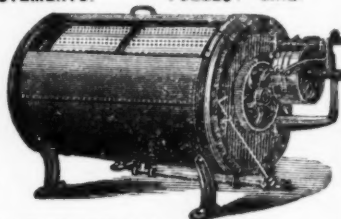
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Station "A," Kansas City, Mo.

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HOTEL and INSTITUTION WORK CAREFULLY HANDLED.
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Send for Catalogue.
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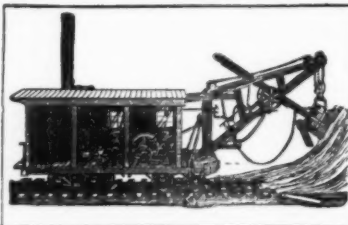
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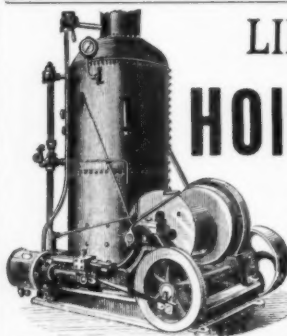


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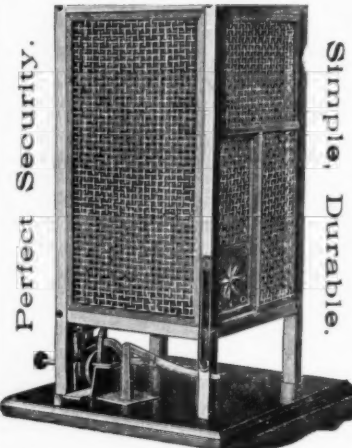
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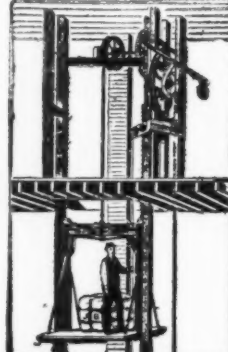
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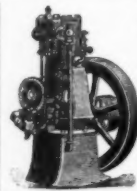


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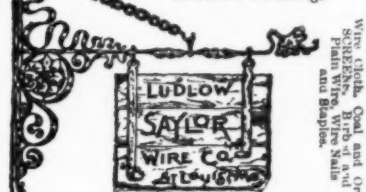
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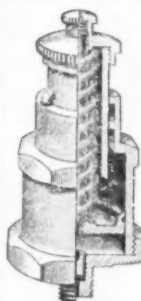
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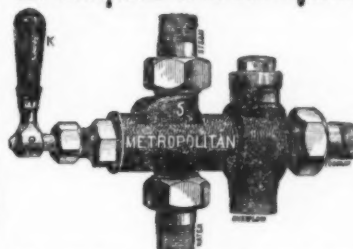


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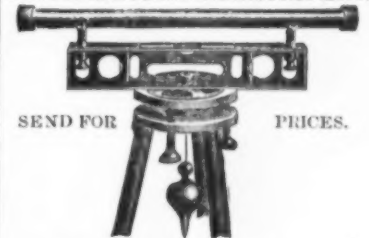
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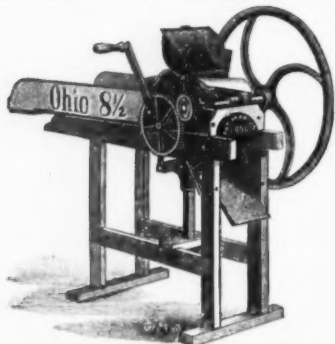
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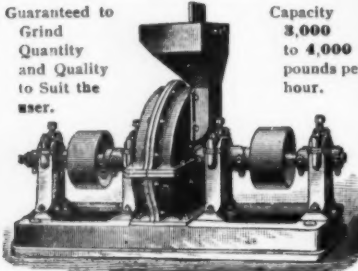
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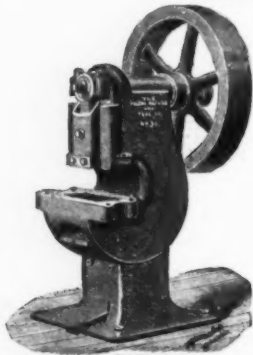
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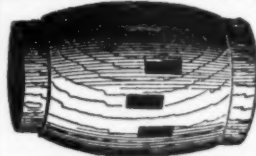


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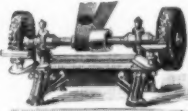
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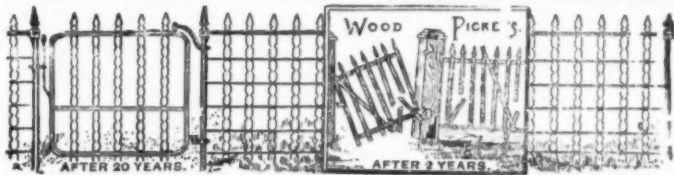
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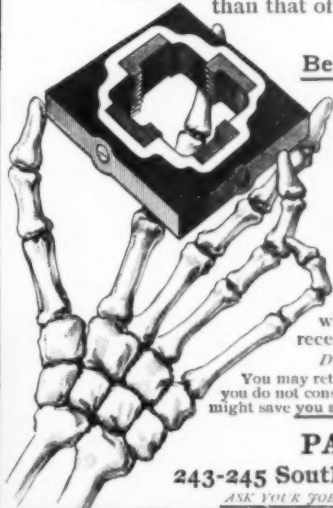
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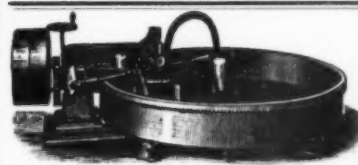
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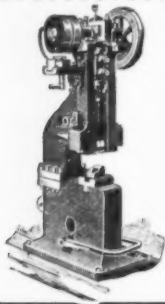
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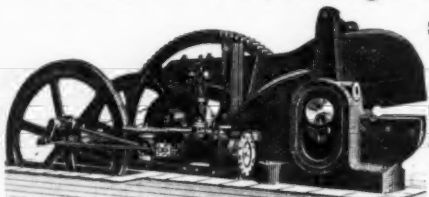
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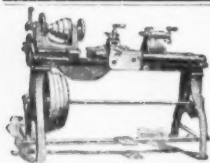
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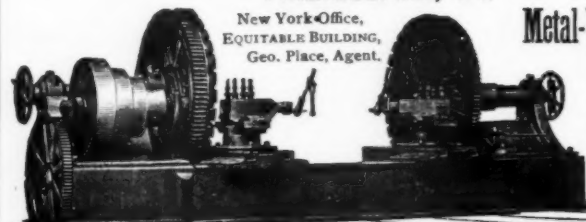
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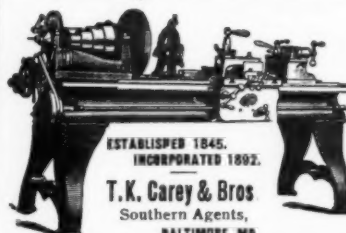
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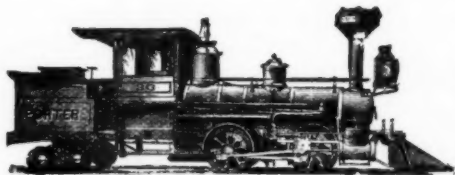
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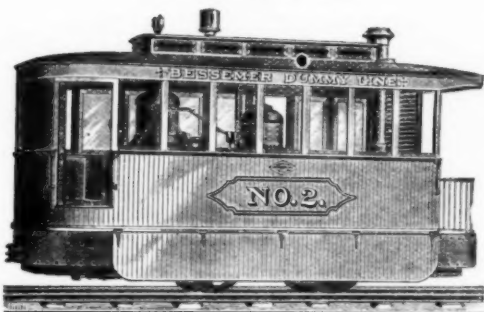
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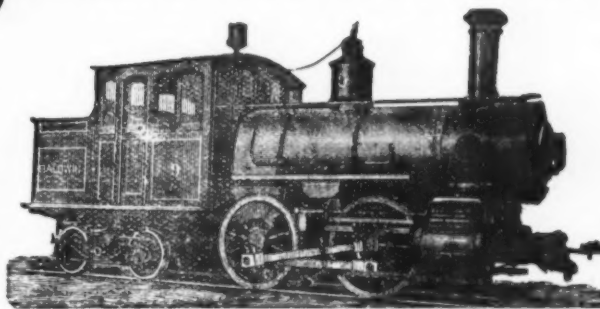
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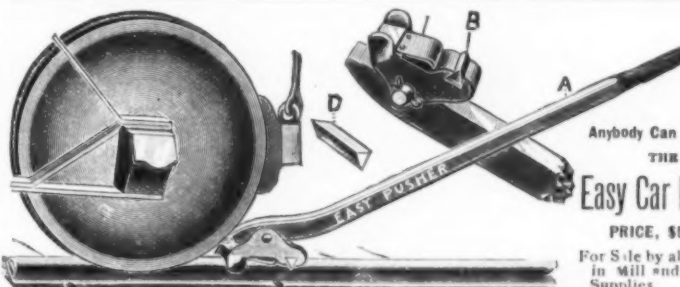
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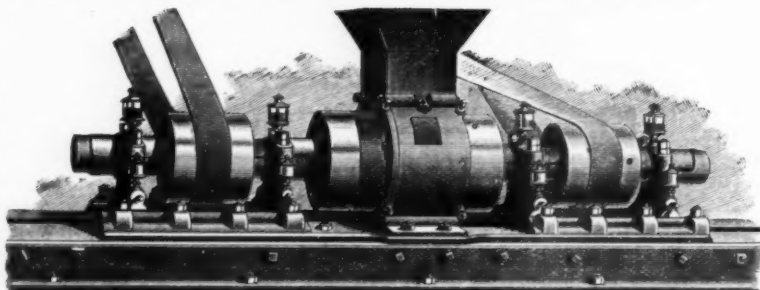
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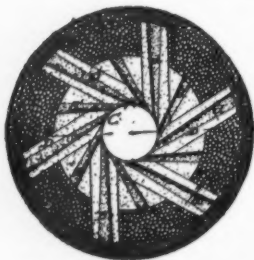
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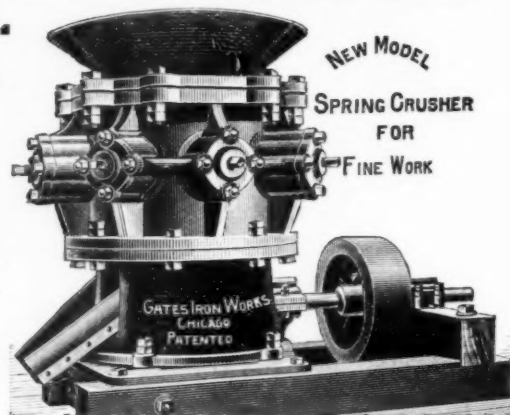
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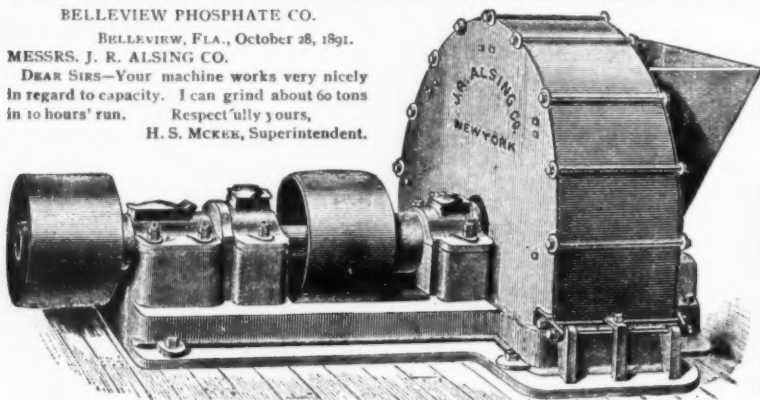
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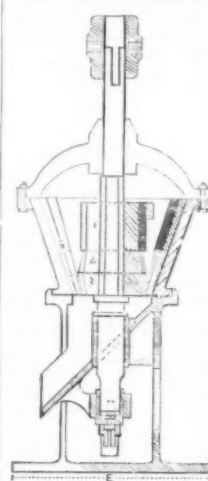


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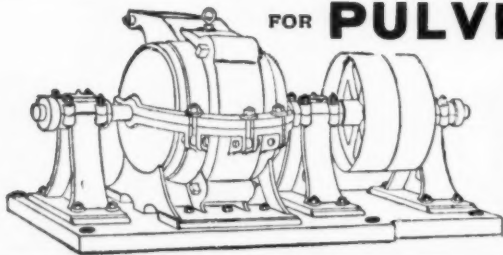
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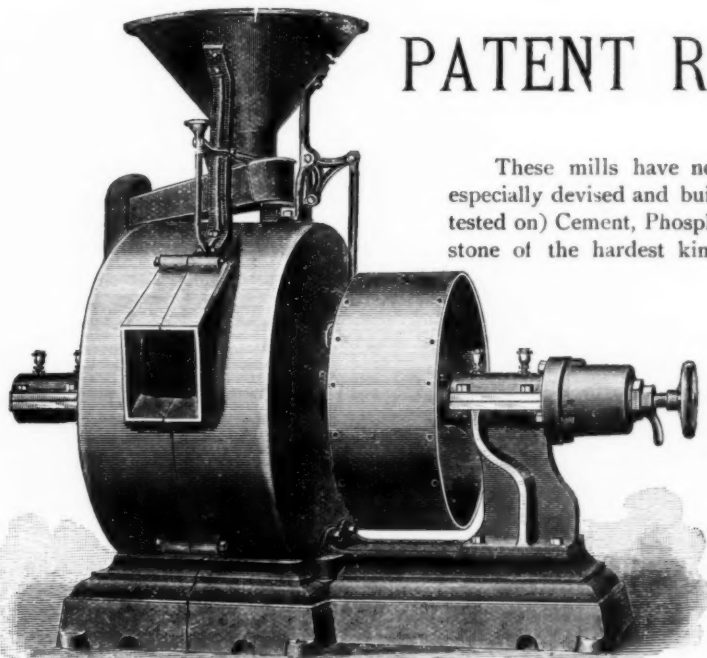
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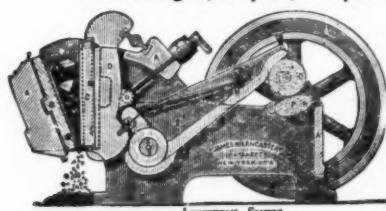
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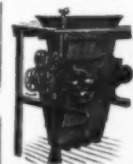


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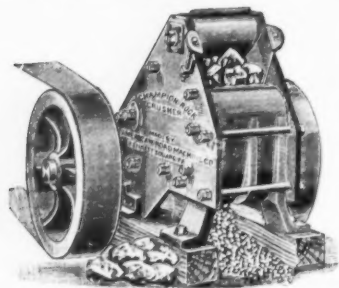


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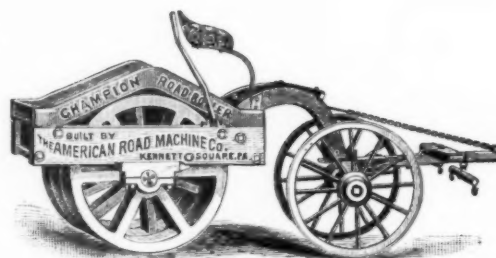
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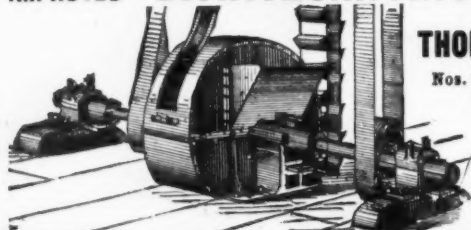
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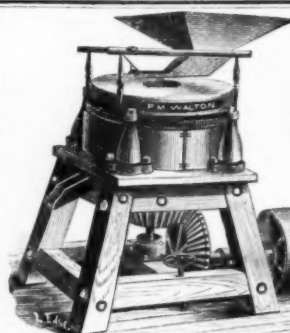
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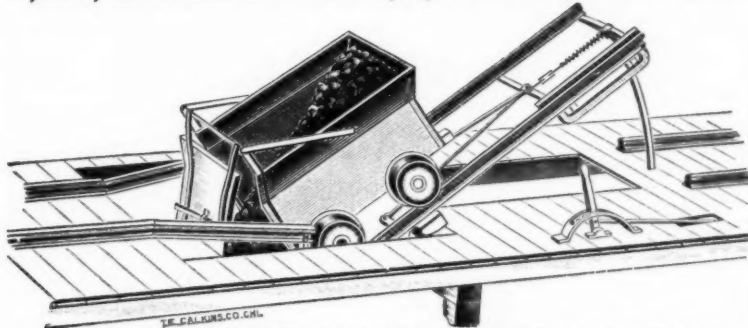
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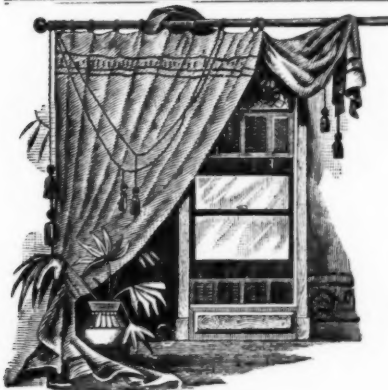
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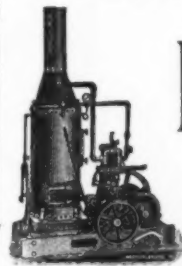
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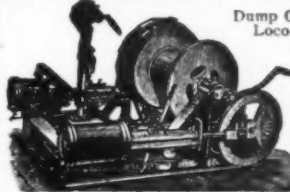
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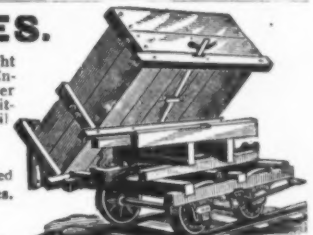
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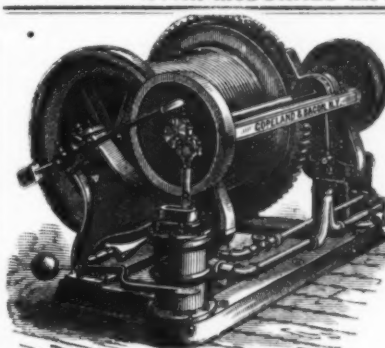
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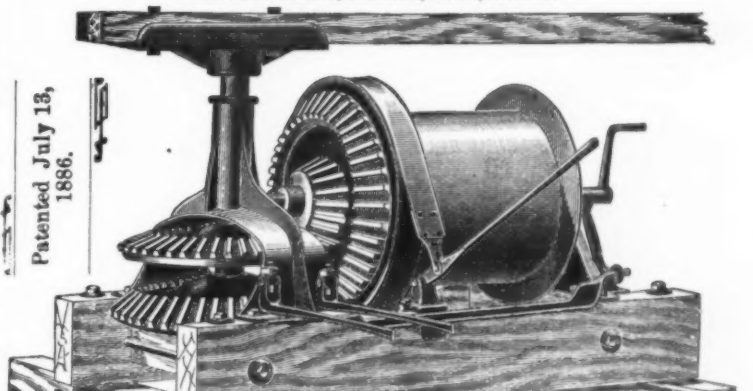
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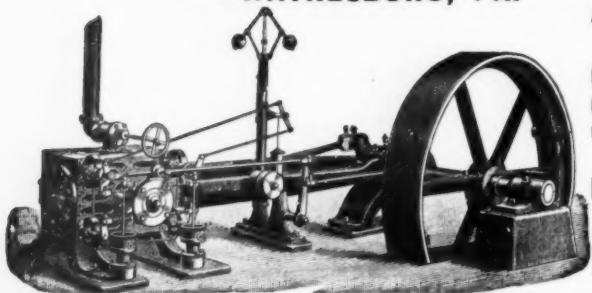
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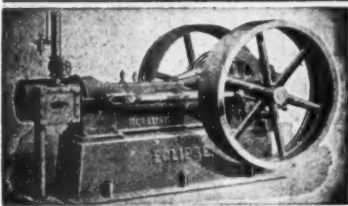
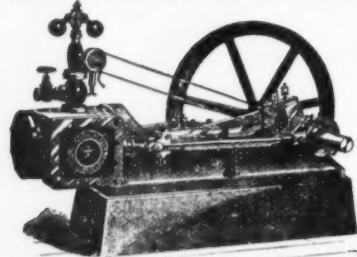
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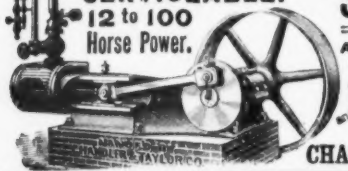
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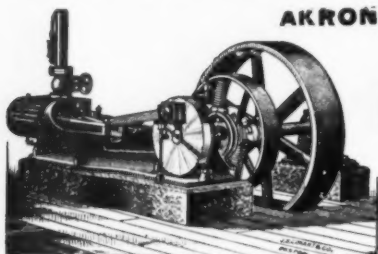
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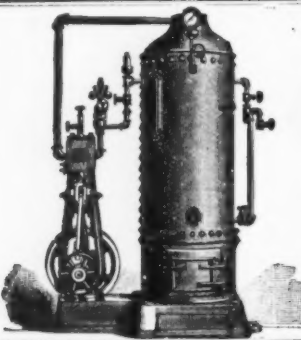
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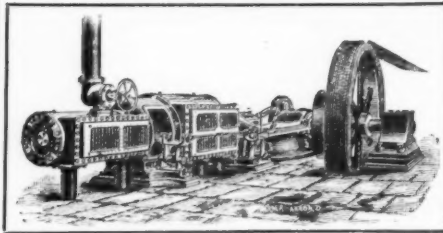
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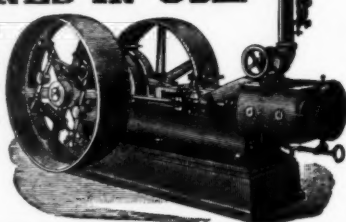
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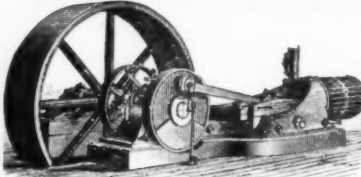
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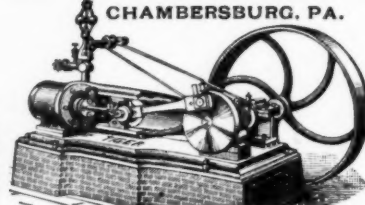
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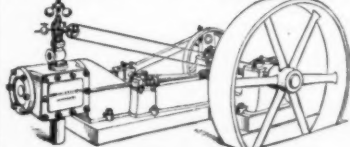
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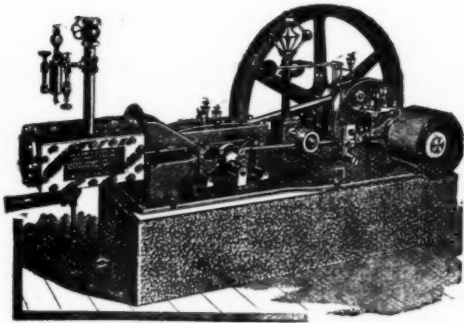
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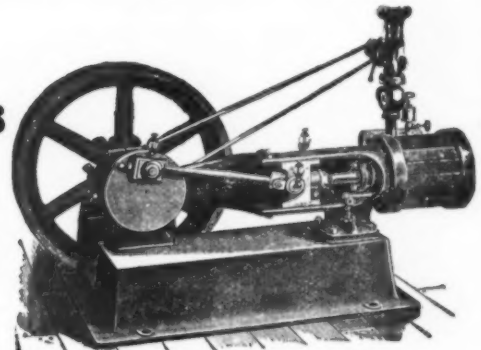
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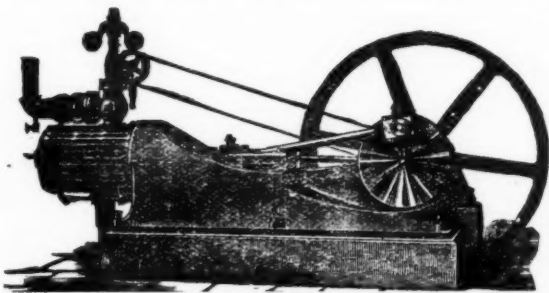
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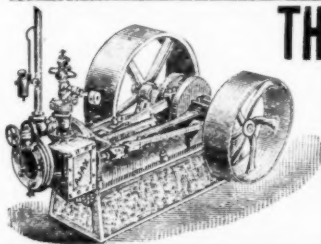


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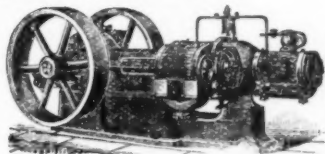
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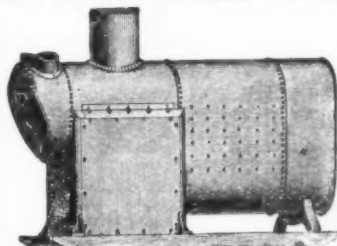
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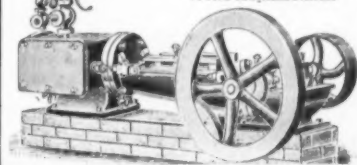
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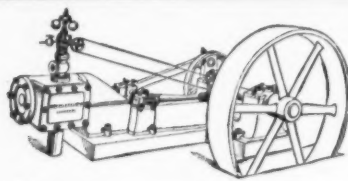
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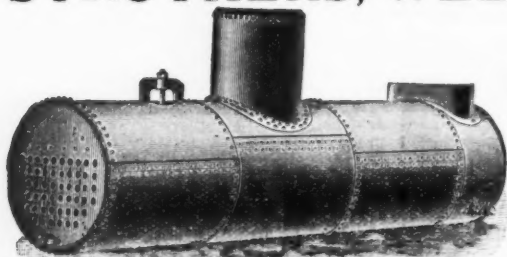
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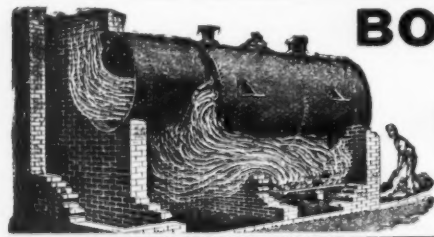
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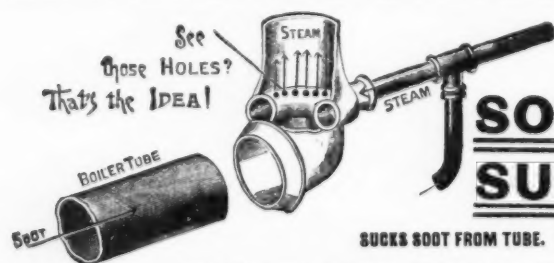
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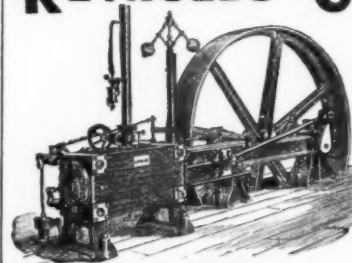
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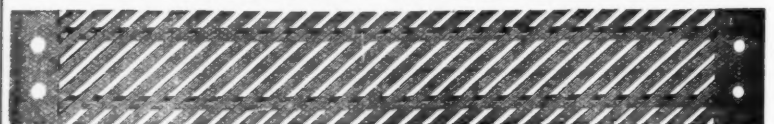
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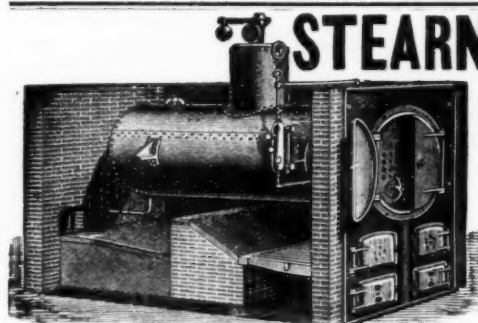
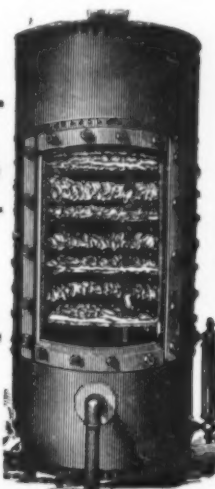
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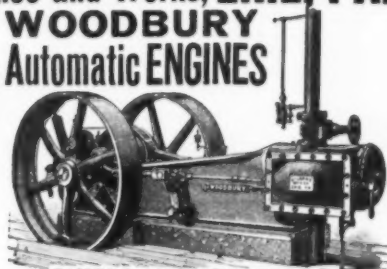


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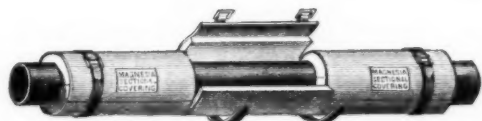
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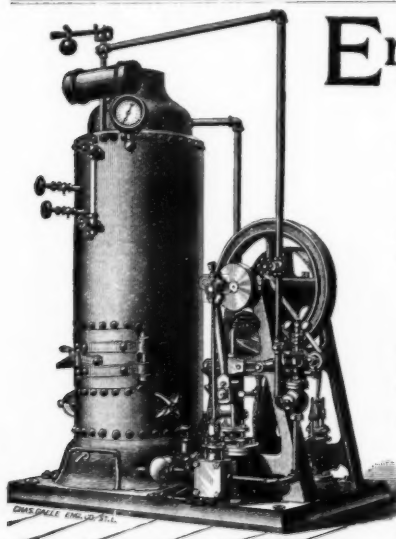


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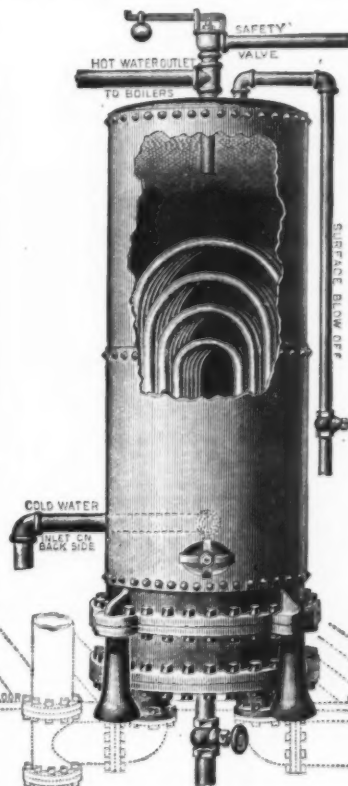
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Approved by the Bureau of Steam Engineering, U. S. N.

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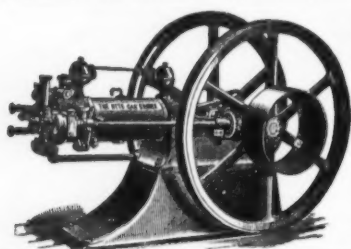
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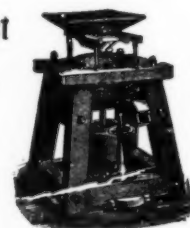
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A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER.

VOL. XXII. No. 15.
WEEKLY.

BALTIMORE, NOVEMBER 11, 1892.

\$4.00 A YEAR.
SINGLE COPIES, 10 CENTS.

Growth of Manufacturing in the South.

In the tables presented below are grouped the principal figures of the manufacturing interests in Southern cities as shown by the bulletins now being issued by the census office. The figures for both the tenth and eleventh census are given for purposes of comparison, and in the form given below they will serve as a convenient reference:

ATLANTA, GA.	
	1880. 1890.
No. of establishments....	196 333
Capital.....	\$1,068,456 \$7,894,870
Hands employed.....	3,680 7,080
Wages paid.....	\$280,282 \$3,266,664
Cost of materials used....	3,159,267 5,289,455
Value of products.....	4,861,727 11,239,591

AUGUSTA, GA.	
	1880. 1890.
No. of establishments....	60 417
Capital.....	\$1,069,275 \$7,075,996
Hands employed.....	1,680 5,861
Wages paid.....	\$2,247,065 \$1,971,610
Cost of materials used....	448,825 1,886,807
Value of products.....	3,139,029 8,631,888

BALTIMORE, MD.	
	1880. 1890.
No. of establishments....	3,683 5,258
Capital.....	\$38,586,773 \$82,526,344
Hands employed.....	56,338 83,091
Wages paid.....	\$15,117,489 \$33,377,538
Cost of materials used....	47,974,297 73,614,829
Value of products.....	78,417,364 140,401,026

CHARLESTON, S. C.	
	1880. 1890.
No. of establishments....	194 566
Capital.....	\$1,718,309 \$7,300,150
Hands employed.....	2,146 5,283
Wages paid.....	\$29,030 \$2,263,979
Cost of materials used....	1,498,375 4,860,421
Value of products.....	2,732,590 8,892,860

LOUISVILLE, KY.	
	1880. 1890.
No. of establishments....	1,108 1,622
Capital.....	\$21,767,013 \$39,542,917
Hands employed.....	17,448 24,807
Wages paid.....	\$5,835,545 \$11,034,028
Cost of materials used....	21,207,110 22,879,000
Value of products.....	35,423,263 45,452,209

MEMPHIS, TENN.	
	1880. 1890.
No. of establishments....	138 302
Capital.....	\$2,313,975 \$7,985,888
Hands employed.....	2,268 5,509
Wages paid.....	\$845,672 \$2,874,526
Cost of materials used....	2,419,341 6,170,670
Value of products.....	4,413,422 11,860,455

MOBILE, ALA.	
	1880. 1890.
No. of establishments....	91 229
Capital.....	\$525,708 \$1,450,373
Hands employed.....	704 2,331
Wages paid.....	\$261,643 \$857,660
Cost of materials used....	830,961 1,433,136
Value of products.....	1,335,579 2,872,017

NASHVILLE, TENN.	
	1880. 1890.
No. of establishments....	268 389
Capital.....	\$3,892,380 \$9,166,626
Hands employed.....	4,791 7,434
Wages paid.....	\$1,312,765 \$3,318,961
Cost of materials used....	5,312,547 7,727,610
Value of products.....	8,597,278 13,073,730

NEW ORLEANS, LA.	
	1880. 1890.
No. of establishments....	915 1,872
Capital.....	\$5,565,303 \$20,695,794
Hands employed.....	9,804 22,563
Wages paid.....	\$5,717,557 \$9,792,504
Cost of materials used....	10,771,892 17,575,888
Value of products.....	18,808,056 31,770,519

NORFOLK, VA.	
	1880. 1890.
No. of establishments....	105 366
Capital.....	\$70,276 \$3,120,819
Hands employed.....	752 2,794
Wages paid.....	\$317,528 \$1,292,613
Cost of materials used....	861,026 2,288,516
Value of products.....	1,455,987 4,634,263

RICHMOND, VA.	
	1880. 1890.
No. of establishments....	598 950
Capital.....	\$6,884,386 \$15,608,897
Hands employed.....	14,047 18,151
Wages paid.....	\$3,006,456 \$6,979,497
Cost of materials used....	12,141,512 12,616,368
Value of products.....	20,790,165 25,891,569

SAVANNAH, GA.	
	1880. 1890.
No. of establishments....	120 187
Capital.....	\$1,102,970 \$2,977,459
Hands employed.....	1,130 1,643
Wages paid.....	\$447,640 \$848,766
Cost of materials used....	2,457,646 2,597,652
Value of products.....	3,396,297 4,467,698

WHEELING, W. VA.	
	1880. 1890.
No. of establishments....	227 377
Capital.....	\$1,868,298 \$7,223,027
Hands employed.....	5,512 5,439
Wages paid.....	\$2,192,255 \$1,441,223
Cost of materials used....	5,203,931 6,448,253
Value of products.....	9,259,844 11,279,541

Business Prospects in the South.

In addition to the letters from Southern bankers which we published last week, we have received several more communications which we give below:

A Good Outlook in Texas.

THE AUSTIN NATIONAL BANK,
AUSTIN, TEXAS, November 2.

Your favor of the 26th ult. received and noted, and in reply to your inquiries about the condition of Southern bankers and merchants will say in my opinion the majority of Southern bankers, in this section especially, are doing a careful and conservative business and making a fair profit on the capital invested. We have been obliged to reduce the line of credit (i. e., the majority) of our customers, owing to the general shrinkage of business on account of the low price of cotton. The banks, in order to retain the confidence of their patrons (or depositors), are obliged to carry a larger amount of money in their vaults and with reserve agents, and in order to do this we have been obliged to cut down our loans.

The position taken by the merchants, as I am reliably informed, generally at the beginning of this year, namely, adopting a rigid course of economy and urging their customers to buy sparingly and within their means and ability to pay, was followed up by a watchfulness during the entire year, which condition, you undoubtedly know, was brought about as the fruit of very low range in the price of cotton at the close of

1891, looking forward to a possibility of a repetition of low prices, and since they have realized a better figure for cotton than was expected and collections are fair to good, I am decidedly of the opinion that the merchants of this section of the State are in a very good condition. They are bearing the distrust and somewhat lost confidence brought about by the present political campaign (in this State, I mean), and this I hope will be remedied by the vote of the people on the 8th of November.

The above seems to be the opinion of the majority of traveling men and many merchants. Inasmuch as the most of the bankers and merchants are on a substantial and sound basis, with a change in our State politics I look forward into the future with bright prospects and great prosperity.

E. P. WILMOT, President.

All Depends on the Next Administration.

THE BANK OF HENDERSON,
HENDERSON, N. C., November 7.

The steady decline in the price of Southern staple crops has borne hard on the Southern farmer, and business in general has sympathized with his condition. We hope we have seen the worst, and that those who have weathered the storm are now on a solid foundation. The better price of cotton is encouraging to the cotton planter, and the large profits in all lines of cotton manufacture for the past year is calculated to stimulate enterprise in that line. The tobacco farmer is not receiving as good prices for his crop, and the business of the tobacco manufacturer, I judge, has been only moderately satisfactory. The fear of the re-election of Mr. Harrison, and the passage of the force bill and continuation of the protective policy of the Republican party, has disposed people to await the results of the pending elections before venturing on new enterprises. Should Mr. Cleveland be elected and the Congress be Democratic, so that all fear of the force bill be removed, and the prohibitory tax on State bank notes be repealed and the tariff laws modified, I think the South will enter upon an era of unparalleled prosperity and development.

On the contrary, should Mr. Harrison be elected and the Congress be Republican in both branches, it will presage much disturbance in the domestic and business affairs in the South; conservative people will be inclined to seek other fields than those of the South for their investments.

The passage of the force bill will bring the South much to the condition she was in 1867-70, when Congress passed the reconstruction laws over President Johnson's veto, and the carpet-bag governments were installed in the Southern States.

WM. H. S. BURGWIN, President.

An Extremely Conservative Policy.

FIRST NATIONAL BANK,
ABERDEEN, MISS., October 31.

In response to yours of 26th inst., the policy of our people now is extremely conservative; this will result in a more healthy condition of affairs, but the volume of business will necessarily be smaller.

C. R. SYKES, Cashier.

Forty Per Cent. Loss Cotton.

BANK OF YAZOO CITY,
YAZOO CITY, MISS., November 1.

In answer to your inquiry upon the present condition and prospects of business,

will say in this section the cotton crop will be at least 40 per cent. short of last year. The country tributary to this place planted nearly all staple cotton, which was very much injured by a wet season. This cotton, however, brings a good price, and we expect fair collections. The farmers have plenty of corn, hay and peas, and will be in as good condition as last year to make the next crop.

R. C. SHEPHERD, President.

Raising More Food Crops.

FIRST NATIONAL BANK,
NATCHEZ, MISS., October 31.

Owing to the short cotton crop, say 25 per cent. less than last year, business is somewhat depressed in this section. Credits, however, have been restricted, forcing the producers to make their crops much cheaper than was the case in former years. Coupled with a disposition to diversify crops, the final wind-up will be about as satisfactory as was the case with higher price of cotton and no feed crops. There is produced in this section a sufficient corn and hay crop to supply the demand, and this policy means prosperity to the cotton planter.

A. G. CAMPBELL.

The Outlook Most Encouraging.

LOUISVILLE TRUST CO.,
LOUISVILLE, KY., November 2.

The leading business houses of this city report business in an excellent condition, collections rather better than usual and the outlook as most encouraging. The natural resources of the South are such that, with a greater diversity of crops, its condition under ordinary circumstances should never be otherwise than good.

H. V. LORING, President.

No Inflation Now.

FIRST NATIONAL BANK,
ROME, GA., November 3.

I see nothing to keep down active business or to check a career of prosperity for this section of country if we can elect Mr. Cleveland and repeal the present "silver coinage" act. We must content ourselves with the day of small things until this act is repealed. The last two years of depressed times have taught our people a rigid lesson in economy. There is no inflation now; it is all down to hard-rock bottom. Our people will start out a new year with a less debt than has been usual heretofore. More building has been done in Rome the past year than any previous year for the past ten years. Our collections have been splendid.

JOHN H. REYNOLDS, President.

Missouri's Mine Products.

The sixth annual report of the State inspector of mines in Missouri, C. C. Woodson, for the year ending June 30, 1892, shows that in no period of the State's history have the mining industries developed so much activity or experienced such an era of prosperity as during the year just closed. And present indications point to a continuance of like gratifying results. While the volume of business, both in tonnage and receipts from same, has been largely increased, yet the average prices received for the product show a small decrease from those obtained during the preceding year. Miners have been in demand in most of the mining districts, and the relations existing between operators and miners have in the main been most har-

monious, with no acts of violence or lawlessness reported from any section.

VALUE OF OUTPUT.

The report shows large increased productions of coal, lead ore and zinc ore, while that of iron shows a slight decrease compared with the year preceding. There are 1,144 mines of all kinds in the State, with total receipts from the various industries represented by the same showing as follows:

From lead and zinc ore.....\$5,056,504 62
From coal.....3,825,828 57
From iron.....251,666 58

Amounting in all to.....\$9,136,999 77

The increased production from coal, lead ore and zinc ore amounts in value to \$655,420 over the year preceding.

The average number of men employed at the mines amounts to 14,340, which number, based on the moderate ratio of four to one, gives a population of 57,360 persons directly dependent upon the mining industries of the State for a livelihood. There occurred during the year at the mines fifty-two non-fatal and thirty-eight fatal accidents, the latter causing twenty-one wives to be made widows and sixty-seven children to become fatherless, with one life lost to every 104 men employed.

COAL INDUSTRY.

The coal industry has steadily increased year after year, but the increase for the year just closed is far in advance of any previous record. The output is shown to be 3,017,285 tons, and the proceeds from the same amount to \$3,825,828.57. For the past three years the increase in the coal product has averaged a gain of 213,000 tons one year over the other, while the increase for this last year exceeds its predecessor 367,267 tons.

The average price received per ton at the mines for coal during the year has been \$1.268, a decrease compared with the previous year of forty-eight cents per ton. The coal product is reported from 454 mines, large and small, scattered among thirty-four counties, with an average of 8,050 men employed. The accidents occurring number forty-one non-fatal and twenty fatal, with an average of 150,864 tons of coal mined for each life lost. The kegs of powder consumed in the mines number 53,450. There were twenty-three new mines opened up, not including small ones, and ten mines worked out and abandoned.

The following is a list of counties producing coal, arranged in the order of output:

Counties.	Tons.	Counties.	Tons.
Macon.....	585,325	Sullivan.....	8,800
Etowah.....	560,074	Polk.....	6,881
Lafayette.....	347,000	St. Clair.....	5,495
Randolph.....	267,001	Polk.....	5,440
Way.....	257,498	Cedar.....	4,481
Henry.....	157,258	Cooper.....	3,296
Putnam.....	131,074	Chapman.....	2,312
Verdon.....	119,000	Nowell.....	1,850
Barton.....	105,281	Carroll.....	1,328
Caldwell.....	85,333	Livingston.....	1,000
Linn.....	25,888	Schuyler.....	766
Audrain.....	20,742	Pettis.....	433
Grundy.....	20,670	Rails.....	290
Boone.....	21,058	Miller.....	127
Callaway.....	16,531		
Montgomery.....	16,030		
Adair.....	14,830		
Johnson.....	10,455		
		Total.....	3,017,285

LEAD AND ZINC.

In the lead and zinc industries astonishing progress has been made, notwithstanding serious obstacles were encountered, especially in the southwestern portion of the State, resulting from extraordinary rains during the spring months which greatly delayed work. The already large output would have been much increased but for this trouble. Jasper county leads in the total value, or rather actual amount received for its product, with a total for lead and zinc of \$2,046,477.31. This county has made a large increase in both lead ore and zinc ore, the amount in excess of last year's receipts being \$334,752.81. The output of zinc amounts to 80 per cent. of the entire zinc product of the State.

St. Francois county shows an increase in the production of lead ore over the pre-

ceding year, and has to its credit 48 per cent. of the entire lead ore produced in the State.

The following shows the product of each county in tons of lead and zinc ores:

Counties.	Zinc. Tons.	Lead. Tons.
Jasper.....	106,614	11,501
St. Francois.....	23,740	5,721
Lawrence.....	13,861	1,250
Newton.....	8,343	4,403
Madison.....	2,075	1,794
Washington.....	899	406
Greene.....	192	84
Bartt.....	150	98
Franklin.....	104	35
Dade.....	98	25
Cole.....	35	35
Miller.....	25	7
Perry.....	7	
Totals.....	131,488	49,626

IRON PRODUCTION FALLING OFF.

In the iron industry the results obtained are not unlike those of the several years preceding, each year showing a slight decrease from the former. The following table shows the counties producing the iron, with the tonnage from each:

Counties.	Tons.
St. Francois.....	78,599
Dent.....	21,794
Crawford.....	13,799
Iron.....	7,649
Phelps.....	1,266
Franklin.....	333
Howell.....	320
Total.....	126,521

Gold in Alabama.

[Abstract of a preliminary report on a part of the Lower Gold Belt of Alabama by Wm. B. Phillips, chemist to the Geological Survey of Alabama.]

The gold fields of Alabama extend in part or wholly over the counties of Cleburne, Talladega, Randolph, Clay, Tallapoosa, Chambers, Coosa, Elmore and Chilton. The occurrence of gold is, therefore, confined to that portion of the State in which extensive areas of the crystalline rocks appear, and these rocks are of the same age as the gold-bearing rocks of Georgia, North Carolina and South Carolina. The productive portion of the field is within the following limits: Taking a line from Calera, on the Louisville & Nashville Railroad, to Tallapoosa, Ga., from there to Columbus, Ga., and return to Calera, the enclosure will contain some 3,500 square miles, and comprise the area in which at some time or other gold mining has been carried on with success. Within this area the metamorphic and primitive rocks find their greatest development, and form the southwestern termination of the great Appalachian range. The country rocks are for the most part crystalline schists and slates, talcose, micaceous and graphitic, deeply buried on the southwestern edge beneath the clays of the Tuscaloosa formation (cretaceous), but outcropping with ever-increasing boldness toward the east, until in Coosa county and further east they appear with a very coarse granite in hills and bluffs.

At Honeycutt's Mill, in Chilton county, placer mining has been carried on in a small way for fifty years in small streams running into Mulberry creek, but the amount found is so small that further investigation is considered unnecessary. Between this place and Clanton and below the latter no indications are found. At William Howard's, in Chilton county, there is a good exposure of sugary quartz which, upon assay, yielded \$6.20 per ton. At Rocky creek, two miles east of Verbena, extensive washings have been carried on in the gravel, and in some places with good returns. Most of this was done in 1860, and the place so thoroughly worked out that it is doubtful if any extensive investigations now would pay.

The Rippatoe mine on Blue creek was worked as early as 1835, and from then pretty constantly until 1860. The gold-bearing gravel lies about eight feet under the surface and has been practically worked out. The gold was originally

derived from small quartz veins lying in hornblende and slates. These schists are pyritiferous and enclose small seams of pyritiferous quartz. On the property of James Mims the same slates and gravel appear, but the latter has been worked out. A careful investigation of the western part of this and the Rippatoe properties, toward the upper waters of Blue creek, may lead to a seam of workable quartz.

In Coosa county the name Alum Bluff is given to a bold mass of micaceous schist and quartz near the mouth of Hatchet creek. These schists are impregnated with sulphates of iron and aluminum arising from the oxidation of pyrite. This alum forms a white incrustation on the surface of the bluff, and after a drouth can be scraped up by the handful. At this place there is a heavy seam of bluish crystalline quartz carrying decomposed pyrite, samples of which assayed from \$15.40 to \$7.33 gold per ton. The seam would be easily mined and is well worth further investigation. At Gold Mine Ridge and Flint Hill seams of gold-bearing quartz were found, but at neither place were they rich or extensive.

Near Rockford, the county seat of Coosa county, coarse ledges of a friable granite are found alternating with slates and schists. Lying in the schists close to the granite are seams of quartz carrying tourmaline and tantalite, and near by about two pounds of crystals of cassiterite (oxide of tin) were found. This latter is now being investigated. In this district gold has been secured by washing, and from a quartz seam in which a pit was sunk forty or fifty years ago. Samples from the dump at the pit showed a value of \$12.40 per ton.

Tallapoosa county, with Cleburne, was the scene of the greatest activity in gold mining, and from it came a large portion of the gold credited to the Southern States from 1830 to 1850. From Hillsbee bridge, six miles east of Alexander City, for fourteen miles there is an almost unbroken line of pits and trenches which bear witness to the extent of work done in those years. From some of the mines large amounts of ore were taken, but through the total lack of any practical system of operation they were after a time found too expensive to operate and abandoned. Samples taken from the Ulrich pits showed from \$2.06 to \$8.46 gold per ton. At this place, while a considerable amount of ore has been taken out, there yet remains a large quantity of free milling quartz.

All through the Goldville district the old mining operations merely touched the top of the deposits. Above water level these seams furnished an ore more friable and easily crushed than found at greater depths, and the absence of any considerable amount of sulphurets allowed free amalgamation. A sample taken near the northeast extremity of the Goldville belt, at Jones's pits, where the undecomposed sulphuret of iron, with arsenopyrite, began to come in at the bottom of a shaft sixty feet deep and was held in a hard, bluish quartz showing no free gold, gave an assay value of \$55.90 per ton. Other assays from this belt show the value of the ore to vary from \$2.06 to \$55.90 per ton.

At Hog Mountain, four miles west from Goldville, there are two large outcroppings of quartz. This seam was worked to a limited extent several years ago, and some good ore taken out. The Tallapoosa Mining Co., of St. Louis, is now preparing to begin work at this point, and with a modern mill crushing 200 to 300 tons per day there is no reason why the operations should not be profitable. In a number of samples from the place the ore varies from \$8.00 to \$58.00 per ton in value.

In the Silver Hill belt, thirteen miles southwest of Dadeville, extensive operations were at one time carried on. The mines are all abandoned now, but that there remains good ore in the place is

evinced by the following assays of samples taken at random from the old dumps: Sample 1,276, bluish crystalline quartz, carrying pyrite, value per ton \$104.98; sample 1,277, yellowish sugary quartz, value \$8.56 per ton.

At Gregory Hill and Blue Hill the ore is a mass of highly graphitic schist holding numerous small seams of quartz. It is readily mined and easily crushed. Two samples from the former place showed a value of \$6.30 per ton, and from the latter \$8.46 per ton. At these places the earth in the hill yields good panning, and even from the ore itself much free gold can be panned. At other localities in Tallapoosa county there have been more or less extensive operations, some of which deserve further investigation.

The Cyanide Process at the Creighton Mines.

By C. A. Metzger, M. E.

I visited recently the mines of the Creighton Mining & Milling Co. in Georgia, comprising the mines formerly known under the name of the Franklin and McDonald mines.

The history of these mines is identical with that of Southern gold mines in general. The object of mining was the free gold of the brown ores, and the difficulties of mining became insurmountable as soon as the refractory sulphurets were struck. The outfit of the mill was never above common stamps and a Chilian mill. The proprietors or managers observed, however, that their tailings still contained gold to the amount of \$1.00 to \$2.00 per ton in the form of very high grade sulphurets, and hoping that the time would come when this value could be extracted, they did not run the tailings away, but saved them.

When the present company opened one of the old shafts it was found that the mining was done without any other regard than for quickest returns, which could not last for any time, because there was not the slightest provision for the future and for a lasting working of the mine.

This kind of work was done to such a degree as to compel the present manager to open the mine first of all from another point, with a shaft of some 250 feet in depth, only to get out of the way of the old works.

The iron pyrites found in the old works, left there by the former miners, standing in the stipes and used for filling up, assays up to \$100 per ton. It contains no copper and no impurities, at least nothing of any appreciable amount.

The mines are highly interesting throughout and offer at present a special feature, being the first ones in the South where the cyanide process is successfully introduced. As the mines proper were as yet not producing, I had only opportunity to see the process applied to the old tailings, of which there are many thousands of tons at hand.

They pass first an old Chilian mill, more for passing them with water over the concentrators with the purpose of getting rid of the soluble iron salts and free sulphuric acid which may have been formed in the many years during which the tailings were exposed to the chemical action of the atmosphere, and which would cause a heavy destruction of cyanide. The concentration is done with a round buddle, and the concentrates contain 17 to 20 per cent. of sulphurets and \$15.00 to \$17.00 of gold and silver per ton. In this state they are treated by the cyanide process, which takes the gold out to the amount of 85 to 90 per cent. with very reasonable expense—about \$2.50 per ton.

The concentration of the tailings to the amount mentioned was and is, of course, a great point of consideration, observation and calculation. A higher concentration would cause considerable losses in the tail-

ings, and perhaps not allow of such a cheap extraction. These points will not be of so much importance with perfectly fresh ore, which contains no pyrites more or less decomposed and destroying more cyanide than necessary, but they will always need great attention.

I came to the conviction that the main point of the whole process is constant supervision of the amount of cyanide of potash destroyed in every moment. The volumetric method given by the company controlling the patents is extremely simple, and offers no difficulty to any man of common sense and capable of a little figuring.

The process is not fit at all for the "muscular amalgamator," a gentleman introduced lately by Mr. Stetefeldt into the mining society, possessing lots of muscles and not much brains, and I am afraid the process will have to record failures wherever this gentleman gets his fingers in the pie, who is accustomed to burn fuel on one end of the concern, having inside something turning around with more or less noise, and discharging tailings at the other end without knowledge about what is going on between both ends.

I repeat, the control of the process in all its parts has been established and built up by the company very well. The calculations are simple and easy, but unavoidable, and I predict that a concern where this part of the work is badly treated will not be satisfactory to the projectors. Either there will be a tremendous amount of cyanide wasted or no gold extracted, or disorder everywhere and no control.

The details of the process have been described many times elsewhere; there is no deviation at the Creighton mines.

The gold precipitate is worth some \$40.00 to \$50.00 per pound, and is shipped in this state to Northern refiners.

I was in every way much satisfied with all I saw about the process. It is clear and cheap, and leaves sulphurets ready for the market as ore for acid plants, a point of great importance as long as the acid industry is not ready and not willing to accept gold pyrites and to extract the gold after the roasting of the ore for acid by chlorination or another process which needs roasting.

I have to acknowledge many politenesses and kindnesses of Mr. W. E. Hawley and Mr. Fischer, the managers of the mines.

Charlotte, N. C.

Bonded Debts of Tennessee and Louisiana.

The total new settlement debt of Tennessee upon which the State is paying interest is \$14,630,600. The items are \$951,000 of 6 per cents, \$477,900 of 5 per cents and \$13,201,700 of 3 per cents, which amount is the railroad debt. The bonds outstanding yet to be funded are estimated as follows: Fundable into 3 per cent., \$1,169,500; compromise 3 per cent., \$25,000; fundable into 5 per cent., \$270,000; fundable into 6 per cent., \$88,000—a total of \$1,552,000. Recently the State sold the \$1,500,000 of 4 per cent. 15-year bonds authorized at the last session of the legislature to be issued in order to call in and pay 5 and 6 per cent. bonds outstanding, and the State comptroller, J. W. Allen, has issued a call for \$469,000 of the 6 per cents, which will be followed by further calls.

The total bonded debt of Louisiana is \$11,773,700, of which amount the State board of audit and exchange is about to commence the exchange of \$11,556,100 for new consolidated bonds issued under the provisions of an act of the general assembly, approved July 6, 1892. The remaining \$217,600 are in what is known as constitutional bonds and will not be disturbed. The board, which includes Governor Murphy J. Foster, Lieutenant-Governor Charles Farlange, State Treasurer John Pickett, Attorney-General Cunningham, State Auditor Heard and Secretary of State Thos. S. Adams, have adopted certain regulations

and a formula for application which can be had by interested parties.

Opening of the Florida Fruit Season.

The first of the semi-weekly bulletins which are issued regularly throughout the fruit season by the Florida Fruit Exchange gives the subjoined general view of the situation at the opening of the season.

So far as the market for oranges is concerned, we can say that prices are as yet somewhat unsettled. Of course, all fruit so far marketed has been more or less immature; in fact, the fruit seems to ripen very slowly. Sales thus far show a range in prices from \$1.75 to \$3.50 per box, drops and coarse green stock selling \$1.75 to \$2.25, while fair to fancy of good sizes sell \$2.50 to \$3.50. Latest sale shows an average on oranges of \$2.75.

Grape fruit is now wanted, and prices from \$3.00 to \$4.00 per box for good bright stock.

Lemons are still doing well. Late sales ranged \$2.00 to \$6.75. Last sale, containing mostly common stock, averaged \$3.50 per box.

At a convention of orange-growers held at Jacksonville, April 20 and 21, the question of transportation was fully discussed. The exchange was asked to arrange for a direct line of fruit steamers to ply between Jacksonville and New York, or, in the event an independent line could not be established, then the exchange was to make contract with some line that would agree to provide necessary facilities and carry fruit to New York at a reduced rate of freight. In order that the exchange might be fully supported in its efforts, it was agreed at this meeting that the orange-growers should pledge 1,000,000 or more boxes of oranges.

While the quantity of fruit pledged does not quite come up to what was agreed upon, still the management of the exchange worked assiduously through the summer endeavoring to accomplish what the orange-growers desired, and with results as follows:

We have arranged with the Merchants' Steamship Co. to place an additional ship on its line to run in connection with the John G. Christopher. This will give us one ship per week to New York, the rate to be thirty cents per box. These ships, the John G. Christopher and the Bowden, will leave Jacksonville every Friday, the Bowden sailing on her first trip November 4.

The Merchants' Steamship Co. will also put on the steamship Brixham to run between Jacksonville and Baltimore, making two trips per month.

Agriculture and Direct Foreign Trade.

The movement for the establishment of steamship lines giving direct communication between the South and foreign ports, which has been so ably engineered by Col. I. W. Avery and Col. T. P. Stovall, of Atlanta, Ga., is bearing good fruit, and is being heartily supported by the people of the South. At a recent meeting of the State Agricultural Society of Georgia the following resolutions were adopted:

WHEREAS, The South has now all the conditions for a complete direct trade with foreign countries in commerce, products, terminal facilities, railway and negotiable exchange, while foreign steamship lines are competing for Southern freights; and

WHEREAS, The ports of Savannah and Brunswick in this State have begun operations under large appropriations from the United States government that will secure deep water in their harbors for ships of the heaviest draught; and

WHEREAS, The movement for direct trade started by Thomas P. Stovall and Col. I. W. Avery has resulted in the establishment of partial lines at Brunswick and Savannah, and the proposition to start lines at Port Royal, S. C., and Jacksonville, Fla.,

Be it Resolved, That the State Agricultural Society of Georgia heartily indorses the effort for direct trade as a movement that will create business and income to feed our railroad and commerce, give new markets to our farmers, settle our idle lands with thrifty toilers, and aid to give the South commercial independence and financial strength.

Be it further resolved, That our citizens of every calling are urged to help this necessary project, and especially are the railroads of the South and West invoked to combine with the foreign steamship companies by an equitable division of risk and labor in building up profitable and permanent lines of steamships from foreign lands to Southern ports for successful direct export and import trade.

Be it further resolved, That the agricultural interests of Georgia and the South are to be benefited beyond any other class by direct trade by opening the markets of the world to our exclusively Southern products of cotton, rice, sugar, melons, oranges and early truck without paying toll to other sections less favored for farm purposes; and by bringing to us direct the virtuous and Christian immigration with capital that alone we want to populate our surplus and fertile acres and enjoy our healthful climate; and that we urge the consummation of this long cherished boon as the imperative need of the South and the means to give her the trade, power and freedom that her welfare and self-respect alike demand.

Memphis as a Cotton Manufacturing Centre.

With Memphis as a centre, let radial lines 125 miles in length be drawn in the four cardinal directions, and then equal intermediate radii so as to bisect each of the four quadrants; the curve that might be drawn through the terminal point in each line incloses more than 49,000 square miles, including portions of Tennessee, Mississippi, Alabama, Kentucky, Missouri and Arkansas. Upwards of thirty counties in Mississippi and Arkansas are wholly or partly in this circular area, and more than twenty in Tennessee. Much of the rich lands of the Mississippi, Yazoo, White, St. Francis and Arkansas bottoms are comprehended in this section—soil practically inexhaustible in the elements that are requisite for long staple cotton of strong fibre. This region probably contributed to the crop of 1891-92 more than 1,000,000 bales, of which the counties of Mississippi furnished more than 500,000, Arkansas upward of 300,000 and Tennessee over 200,000. During the year 773,000 bales, or somewhat more than seven-tenths of the yield of this territory, were handled in Memphis. The reputation of the cotton grown in this district naturally attracts buyers to the Memphis market, as does also its facilities for direct shipment to the mills of the world. The clearing up and cultivation of much of the cotton land within the area of which Memphis is the centre has been in no small degree due to the material encouragement extended to growers by the merchants of that city. A decade since the amount of cotton received here was less than half the quantity handled in 1891-92 by 47,000 bales; to-day it is the second largest spot market in the United States.

But a forcible claim is advanced by the business residents of Memphis for its great eligibility as a site for textile mills, particularly cotton factories. They adduce as arguments the fact that all grades of cotton are readily attainable in its market; that coal in great variety and abundance for steam-power, for bleaching, dyeing and for finishing work is within easy reach; an abundant supply of water suitable for boiler of condensing engines—an estimate has been made that a steam plant of 500 horse-power may be operated at an expense of thirty cents per horse-power per day. They particularly emphasize the fact that their city is the emporium of a region containing many populous towns which are reached by railroads and steamboats in many directions in a few hours, and that the rates of freight to these subordinate centres are low. They cite as an illustration that cotton products can be delivered as far off as Omaha at less than fifty cents per hundred pounds by steamboat.

To recur to cotton manufacturing *per se*, it is averred that there is no climatic argument to be offered against this place. Their anticipations of the future importance of their city as a cotton manufacturing centre are quite lively. — *American Wool and Cotton Reporter*.

Savannah's Great Healthfulness.

By Col. I. W. Avery.

The draining of the low grounds around Savannah has made the city as healthy a place as there is in the world.

Located on the Savannah river, seventeen miles in an air line from the ocean and twenty-four by the stream, on the south bank on a steep sand bluff a mile long and forty-five feet above mean low water, the bluff declining back with forest growth gently several miles, Savannah is as healthful as it is beautiful.

It has wide streets and twenty-five open squares of one to one and a-half acres each, cool with fine shade trees and green swards scattered at regular intervals, with a park and parade ground of thirty acres and an antique cemetery, unused for thirty years, giving many and delightful spots for breathing sweet air and for children's grounds.

The water that supplies the city is the purest and best known to mankind, coming from a system of twelve artesian wells 500 feet deep, rising forty-one feet above mean low water mark and flowing 15,000,000 gallons daily, or over 300 gallons to each inhabitant. The city is free from every disease generated by impure water.

The average annual temperature is 66°, like that of Bermuda, Gibraltar, Palermo, Montevideo and Sydney; average winter cold 52°, summer heat 81°. Killing frosts come about November 28. There are about ninety cloudy days in the year. A delicious climatic feature is the cool nights born of the fresh ocean breezes, the result of the trade winds rising in the late afternoon. Hot nights are rare.

The rate of mortality is very low, being 17.1 to the thousand among the whites. This is a remarkable mortuary record.

The annals of Savannah's exemption from diseases are extraordinary. Hydrophobia is unknown. Vesicular calculus does not exist among residents. Renal calculus is rare. Asiatic cholera has never appeared in the city proper. Eruptive fevers are mild. Diphtheria, long unknown here, is not virulent. Membranous croup is rare. Cholera infantum is rare and mild, due to ample air spaces, perennial shade trees, constant sea breezes, relative coolness and absence of summer malaria. Cerebro-spinal meningitis has been here but once. Puerperal fever is so unusual that the city cannot be excelled as a safe lying-in station. Sunstrokes are very unusual. Erysipelas is far from common. Savannah is among the ports having fewest epidemics, taking place with Boston, with but four years of yellow fever, that has not visited the city since 1876, since when the city's drainage has been perfected. Dengue is unimportant, preventing the epidemic, though raging near and generally.

The prevalent diseases are of the lungs, gastro-intestinal diseases and paludal disorders. Virulent malarial diseases are rarely seen.

These valuable facts about Savannah's health were gained from that scientific physician, Dr. R. J. Nunn.

Savannah's uncommon freedom from human ills has been variously accounted for—by its artesian water, thorough drainage, city and suburban, the protection of the high bluff on the river front and the forest growth on the other sides, the prohibition of rice culture within a mile of the city, the filtering effect of its sandy soil, the wide streets with porous soil, and many squares, the abundant shade trees and constant salt sea breezes, and location too far south for cold weather disorders and too far north for tropical ailments.

Whatever be the causes, the fact stands unchallengeable that Savannah is on neutral medical ground, where virulent malarial disease of the far South finds no home and the intractable disorders of the far North cannot kill.

PHOSPHATES.

Phosphates in South Carolina.

By Edward Willis.

[From the Eleventh Census: Report on Mineral Industries.]

I.

The deposits of phosphate rock in the neighborhood of Charleston and Beaufort, South Carolina, and imported guanos have furnished practically the entire supply of phosphoric acid for all the commercial fertilizers in the United States, bone having been the only other extensive source.

The history of these phosphate deposits has been recorded in various essays. Their existence was known as early as 1797, when they were mentioned by Ramsey. Since then Drayton mentioned them in 1802, Vanuxem in 1824, Shecut and Mills in 1826, Ravenel and Holmes in 1837, and Ruffin in 1844. These authorities spoke of them as extensive beds, but they were known and referred to as marl, that is, calcium carbonate, instead of phosphate. They were mentioned also by J. Lawrence Smith, Hume, Gibbs, Lyell, Toumey and Agassiz, but they were only known as having a value for calcium carbonate. Mr. Ruffner, of Virginia, who made extended researches and applications of Virginia and South Carolina marls, had many analyses made of each, showing that they were very different in composition. Those of Virginia were easily attacked by weak acids, but the Carolina marls were shown to contain silica, compounds of iron, calcium phosphates and other materials. They were not considered by him applicable to the soil until changed by burning, when he observed that they were far better and more efficient than the Virginia material.

Mr. Toumey first speaks of Charleston marl in 1848 as "marl stones" found in Ashley river basin, at Bees Ferry, at Hanckel and at Drayton Hall. In 1850 Prof. F. S. Holmes read a paper before the American Association for the Advancement of Science calling the material "marl rock of boulder-like masses." At that time it was analyzed by Dr. J. Lawrence Smith and Dr. C. U. Shepard, Sr. A sample from Dr. Gedding's place, "The Elms," was analyzed by the latter, and declared to contain 18.60 per cent. of silica, 68.01 per cent. of calcium carbonate, 1.20 per cent. of magnesium carbonate, 9.20 per cent. of phosphates of calcium, magnesium, peroxide of iron, etc., 0.40 alumina and 4 per cent. of water.

In 1866 Dr. St. Julian Ravenel, Mr. D. C. Elough and Messrs. W. C. Dickey & Sons imported 400 tons of Navassa rock guano into Charleston. This seems to show clearly the ignorance of the existence of any considerable quantity of phosphate rock in Charleston at that time. In 1867 Dr. St. Julian Ravenel offered to supply Dr. N. A. Pratt with native phosphate rock, and at the same time agreed to take all the sulphuric acid that Dr. Pratt could make. In this same year Dr. Pratt and Professor Holmes took the initiatory steps to bring the South Carolina phosphate to the notice of capitalists, and Mr. James T. Welsman, of the firm of John Frazer & Co., furnished the first capital. Dr. Pratt and Professor Holmes then organized the Charleston Mining & Manufacturing Co., the pioneer company to use South Carolina phosphate rock, and to make it a success Messrs. George F. Lewis, F. Kent, V. E. Smith, Samuel Fischer and Samuel Grant, capitalists of Philadelphia, joined them, furnishing the money. The business thus inaugurated grew in importance. Many mining companies were organized and started, among them the Etiwan Company, formed by Dr. Pratt, the first company in the State to use acid chambers. From this time on the phosphate industry continued to enlarge, and with various

fluctuations of depression and prosperity increased to the extensive operations recorded in later years.

COMPOSITION.

The crude tests as to the composition given above have, of course, been corrected by many thousands of careful analyses. The appearance and general character of the phosphate rock are quite uniform, with slight differences for land rock or river rock. But the proportion of calcium phosphate in the rock varies widely; analyses of each cargo must be made to establish its value. It is impossible to give a representative analysis, except it be based on an average of many shipments. The following, based on several hundred shipments, may be considered a typical analysis of clean dry rock of good quality:

GENERAL COMPOSITION OF SOUTH CAROLINA PHOSPHATE ROCK.		Per cent.
Phosphoric acid (a).....	26.0 to 29.0	
Carbonic acid (b).....	2.5 to 5.0	
Sulphuric acid.....	0.5 to 2.0	
Lime.....	35.0 to 42.0	
Magnesia.....	traces to 2.0	
Alumina.....	traces to 2.0	
Sesquioxide of iron.....	1.0 to 3.0	
Fluorine.....	1.0 to 2.0	
Sand and silica.....	4.0 to 12.0	
Organic matter and combined water.....	2.0 to 6.0	
Moisture.....	0.5 to 4.0	
(a.) Equivalent in combination to 57 to 63 per cent. of bone phosphate of lime.		
(b.) Equivalent in combination to 5 to 11 per cent. of carbonate of lime.		

LAND ROCK.

There are two classes of phosphate deposits, land and river, the extent of the former being estimated January 1, 1890, at fifty-five square miles and of the latter fifty square miles. Land rock is tolerably uniform in grade. Its color varies from light yellow to heavy brown. It is nearly free from iron and alumina, but contains sufficient carbonate of lime to make an acid phosphate, and from this ammoniated or potash compounds, that promptly dry and remain in a pulverulent state after being treated with sulphuric acid. In the United States land rock has been mainly used, it being preferred to that from the rivers. River rock has since 1870 been preferred in all foreign markets to the land rock, and much the larger part of that mined still goes abroad. In color it is from gray to blue black, with specific gravity of about 2.4 and hardness about 3.15.

It is found at depths beneath the surface varying from one to twenty feet. The nodular stratum varies from a few inches to 2.5 feet in thickness, but the latter is rarely observed. Ordinarily it is from ten to fifteen inches and averages about ten. Where the deposit exceeds fifteen inches in thickness this depth rarely extends beyond a limited area, and is generally due to local accumulation or is the result of accidental superposition of a few large nodules. The yield per acre varies from 500 to 1,200 tons, the average yield of land beds now worked being 800 to 1,000 tons per acre. The yield per acre stands in a certain ratio to the thickness of the stratum, but not invariably so, as the compactness is an important factor in determining the amount of production. In many instances the stratum is underlain by marl, occasionally to a depth of 250 feet.

The method of land mining of phosphate rock is simple. Long trenches are laid off, from which the overlying earth is first removed. Then by hand labor, with pick and shovel, the rock is taken from the trenches and thrown into piles, from which it is taken by barrows or carts to be washed and crushed. The laborers are usually negroes from the surrounding neighborhood and near towns or cities. Italians were employed several years ago by a number of companies, but they were soon replaced by negroes, who for climatic and other reasons are better adapted to the work.

RIVER PHOSPHATE.

River phosphate is found in deposits on river beds in depths varying from exposure at low tide to ten or fifteen feet below the surface of the water. It is occasionally found under layers of sand and

mud. The nature of the deposit and the depth of the water determine, in large measure, the method of excavation. Where the rock is not over three or four feet below the surface of the water mining is done by hand. In deeper water dredging is resorted to. Where the rock is taken from navigable streams it is the property of the State and is subject to a royalty of \$1.00 per ton.

At low water, where the bed is easily accessible, workmen with pick and shovel loosen the rock and throw it on scows or flatboats within convenient reach in shoal water. When the tide rises the operations cease until the next low tide, and the loaded scows are moved to convenient points for shipment to washers and crushers or for transfer to vessels. The localities in which this mode of mining can be carried on are few, but they have yielded large quantities of rock at moderate cost. In the deeper water, where dredging is not resorted to, much rock is obtained by divers, who, with pick and crowbar, loosen the material by expertness only attained by those skilled in this particular work. A diver is enabled to bring to the surface rocks which would require the strength of three or four men to handle above water.

The dredging machines are used to most advantage in about twelve feet of water. They are powerful machines, specially made for the work, of several varieties of construction, with claws and scoops capable of raising immense weights. An ordinary day's work, under favorable circumstances, lifts about 100 tons of rock. The rock, having been gathered into dippers or buckets propelled by steam, is emptied on a grating or conical washer, where it is cleansed of the mud and sand by means of heavy streams of water. Marl, sandstone or oyster shells are then easily detected and thrown aside. The rock, which is partially cleaned, then descends, or is thrown by the machinery on a crusher, and thence into a second washer, where the remaining impurities are separated.

The washing apparatus consists of either upright and caldron-shaped or shaft washers, which discharge the washed rock upon lighters for transportation to the drying sheds, where it is heaped upon and around a system of perforated iron pipes. Hot air is then forced through these pipes, and, escaping through the perforations, in a few days thoroughly dries the originally saturated rock.

The machinery for loading and discharging phosphate rock at the works of the Coosaw Mining Co. will serve to explain these processes. At the first and second piers wet phosphate rock is hoisted by donkey engines from lighters, dumped into cars, and in them rolled to the drying bins, where it is piled up on the system of perforated iron pipes to be dried. At the third pier a vessel receives a cargo of dried rock, delivered directly into the hold by dumping cars, which are loaded in drying sheds from large iron buckets hoisted by steam power.

CRUSHING AND WASHING.

The machinery for crushing and washing the rock is expensive and elaborate. The washer in general use is known as the "single-screw washer." It consists of four half-circular boxes resting in a frame on an incline of eighteen inches and twenty-five feet in length. These boxes are cased with iron. In each box is an octagonal shaft, also cased with iron, and having on each face teeth or blades set at such an angle to the shaft as to form a spiral screw, with a twist of one foot in six feet. Over each box or washer are strong cylindrical crushers or breakers armed with steel teeth acting against an iron plate and set about four inches from the plate. Through these breakers the nodules of rock are dumped and by them broken to a uniform size of four inches cube. The

rock is then agitated by these bladed shafts, which make about eighteen revolutions per minute, and are submerged in water contained in the tub or box. The rock is forced forward and up the incline against a heavy stream of water (which enters at the upper end of the washer box) and empties itself through an overflow at that end. The abrasion of one piece of rock against another in its passage through the box rids it completely of all foreign matter, such as mud, etc. From this overflow it falls upon screens, set one above the other, the first screen having about half-inch mesh and the lower screen about quarter-inch mesh. From this lower screen the fine rock falls upon an oscillating screen still lower, which serves to rinse the small rock thoroughly. Over all these screens a flow of water passes continuously. From them the rock falls upon an elevated platform, and is thence taken to the sheds or storehouses. The water used is drawn directly from the river and forced up into large troughs by means of heavy pumps, both steam and centrifugal. The washers are considerably elevated for the purpose of getting rid of the debris, which is carried off by means of large troughs. The loss by abrasion and clay adhering to the rock varies from 50 to 60 per cent. The capacity of each washer is from forty to fifty tons of clean rock in ten hours.

Phosphate Matters at Tampa.

PORT TAMPA, FLA., November 1.

Beyond the city of Tampa proper, across the peninsula of land which separates the Hillsboro bay from Old Tampa bay, just where its waters mingle with those of Tampa bay, is located the port of Tampa. It is reached by the extension of the South Florida Railroad, nine miles from Tampa, nearly the whole of the last mile being built upon piling to the extensive docks out in the expanse of water. The warehouses, docks, immense coal bins, slips, trackways, shops, depots and hotels look from the shore like a miniature Venice in the New World. The Tampa Inn, with its Queen Anne style of architecture, is picturesque and unique, the water surrounding it clear and beautiful, shallow enough for perfect safety, and the still-water bathing of the place "right from the verandas of the hotel" is a prime feature in the attractions of the place. Here Mr. Plant has established the terminus of his system, and here the phosphates of all that region of country bearing the "new find" in lower Citrus, Hernando, Pasco, Hillsboro, Suwanee, Polk and upper Manatee counties find their legitimate outlet.

There is here no elevator like the one in operation at Fernandina, and the loading to the vessels is done direct from the cars. When shipments of phosphate were first made from this port a small elevator suited to the handling of pebble at the rate of seventy to ninety tons per hour was built, but as its equipment did not extend to storage bins, but simply to the transfer of the material from the cars to the ship, pebble at the time being tardy in putting in its appearance, some little accident placed the apparatus *hors du combat*, and it has remained in a state of innocuous desuetude ever since, though the increasing demand for its services is compelling repairs. This elevator is particularly valuable in the loading of sailing vessels.

The loading of vessels is accomplished by the use of heavy metallic square buckets, whose capacity is a quarter of a ton. They are the ones usually employed for coal in higher latitudes, made of heavy material, iron or steel, mounted on three small wheels, and the handle being fastened below the centre and a little to the rear of the gravity point, the touching of an almost automatic latch successfully makes the dump. These buckets are handled at the end of a boom by means of a cable chain,

THE Merrill-Stevens Engineering Co., at Jacksonville, Fla., is getting ready to build a light-draft stern-wheel towboat for the Dunnellon Phosphate Co. She will be built of steel, and will have two 6x30 high-pressure engines run by a steel Scotch boiler of forty horse-power. Her name is to be the C. U. Shephard.

Date.	Name.	Destination.	Tons.	Kind.
March	1..... British steamship Danish Prince.....	Rotterdam.....	1,781	Rock.
"	18..... British steamship Cuprus.....	Glasgow.....	1,626	Rock.
April	4..... American schooner Chas. E. Schmidt.....	Baltimore.....	753	Pebble.
"	15..... British steamship Merchant Prince.....	Tonnig.....	1,804	Rock.
May	5..... British steamship William Balls.....	Memel..... ¹ / ₂	1,143	Pebble.
"	7..... British steamship Efficient.....	London.....	982	Rock.
"	21..... Swedish bark Precosia.....	Gottenburg.....	1,959	Pebble.
June	18..... British steamship Smilesworth.....	Stettin.....	427	Pebble.
"	19..... American schooner Fortuna.....	Baltimore.....	2,550	Pebble.
July	1..... British steamship Weardale.....	Stettin.....	918	Pebble.
"	2..... American steamship San Antonio.....	Mobile.....	1,912	Rock.
"	9..... American steamship San Antonio.....	Mobile.....	137	Pebble.
"	11..... American schooner Josephine.....	Richmond.....	130	Pebble.
"	13..... British steamship Clyde.....	Dublin, Ayr..... ¹ / ₂	986	Pebble.
"	16..... American steamship San Antonio.....	Mobile.....	888	Rock.
"	22..... American schooner Erastus Wiman.....	Baltimore.....	150	Pebble.
"	22..... American steamship San Antonio.....	Mobile.....	978	Pebble.
"	22..... American steamship San Antonio.....	Mobile.....	150	Pebble.
"	27..... American schooner Annie Batchelder.....	Baltimore.....	607	Pebble.
August	3..... British steamship Fairfield.....	Stettin.....	2,008	Rock.
"	6..... American schooner R. & T. Hargraves.....	Baltimore.....	1,245	Pebble.
"	12..... American steamship San Antonio.....	Mobile.....	146	Pebble.
"	18..... British steamship Red Jacket.....	Hamburg.....	2,642	Pebble.
"	19..... American steamship San Antonio.....	Mobile.....	145	Pebble.
"	19..... American schooner Edward R. Emerson.....	Philadelphia.....	157	Pebble.
"	24..... British steamship Sydmonon.....	Rotterdam.....	3,202	Rock.
"	26..... British steamship William Balls.....	Stettin.....	2,107	Rock.
Sept.	4..... American schooner John R. Bergen.....	Elizabethport.....	1,010	Pebble.
"	10..... American steamship San Antonio.....	Mobile.....	153	Pebble.
"	16..... American steamship Czarina.....	Baltimore.....	1,121	Pebble.
"	17..... American steamship San Antonio.....	Mobile.....	153	Pebble.
Total.....			35,384	

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department, on pages 307 and 308.]

Cotton Spinning in the South.

London *Engineering*, in a recent article on cotton spinning in the United States, calls attention to the remarkable progress that has been made in late years in both cotton growing and cotton spinning in this country, and particularly to the increased consumption of cotton in the mills in the Southern States. From this article we have condensed the following statement, portions of which have already been printed in these columns:

At the close of June, 1892, there were 293 cotton mills in operation in the Southern States, namely, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Texas, Arkansas, Tennessee, Missouri and Kentucky. These 293 mills contained 1,938,524 spindles and 40,608 looms. At the close of June, 1891, the number of mills in the States named was 283, with 1,756,047 spindles and 38,511 looms. In June, 1890, the number of mills was 271, the number of spindles 1,624,335 and the number of looms 36,524. In June, 1889, the mills amounted to 259, the spindles to 1,344,576 and the looms to 31,435. In June, 1888, there were 235 mills, 1,177,901 spindles and 27,566 looms. Twelve years ago, in June, 1880, the number of mills was only 164, the number of spindles 554,566 and the number of looms 12,229. It will be observed that the number of mills has almost doubled during the past twelve years, while the spindles and looms employed have increased more than threefold.

The consumption of cotton in the States mentioned above has, of course, increased greatly during the past twelve years. In 1891-92 the quantity consumed was 681,471 bales; in 1890-91, 609,516 bales; in 1889-90, 549,478 bales; in 1888-89, 486,603 bales; in 1887-88, 443,373 bales, and in 1879-80, 183,748 bales. It will be observed that the increased consumption of 1891-92 over that of 1879-80 was over 270 per cent. The very low prices which have been ruling for cotton during the past year and the great activity of the cotton mills in the South are, of course, calculated to still further develop the manufacture of cotton in that section, especially as a number of new mills are expected to begin operations in the coming winter months.

The following statement concerning the number of cotton mills in the South is interesting: In June last North Carolina had no less than 112 mills, South Carolina forty-seven, Georgia fifty-seven, Alabama twenty and Tennessee twenty-two. There were also twelve mills in Virginia, but Mississippi, Louisiana, Texas, Arkansas, Missouri and Kentucky had only twenty-three mills between them.

Comparing the consumption of the Southern States with the whole country, we find that in the year ending with June last the mills in the South consumed over 681,000 bales of cotton, while the consumption in all the States of the Union amounted to about 3,290,000 bales. In 1879-80 the Southern States consumed only 183,748 bales, or about 3 per cent. of the whole production, while in 1891-92 they consumed about 7½ per cent. of the production.

THE COTTON CROP OF THE WORLD.

Over a century ago, in 1791, the world's consumption of cotton amounted to 150,000 bales of 400 pounds each, of which Great Britain consumed 70,000 bales, the Continent 75,000 bales and the United States only 5,000 bales. In 1890-91 the world's consumption had reached the enormous total of 11,660,000 bales, of which Great Britain consumed 4,210,000 bales, the Con-

tinent 4,520,000 bales and the United States 2,930,000 bales; that is, a century ago the world consumed less than 3,000 bales of cotton per week, while last year its weekly consumption amounted to 242,000 bales.

Messrs. Latham, Alexander & Co., of New York, publish the following table giving the quantity of cotton consumed by the spindles of the world in 1889-90 in bales of 400 pounds:

Countries.	Bales.	Per cent.
Continental Europe.....	4,290,000	28.62
Great Britain.....	4,030,000	26.89
United States.....	2,730,000	18.21
China.....	1,495,000	9.91
East Indies.....	1,380,000	9.21
Africa.....	375,000	2.50
South America, Mexico, etc.....	250,000	1.67
Japan.....	200,000	1.33
Asiatic Russia.....	100,000	0.66
Turkey.....	80,000	0.53
Canada.....	70,000	0.47
Total.....	14,990,000	100.00

The cotton crop of the world will be found in the following table, which has also been prepared by the firm named above. It will be seen that the United States consumes more than one-half of all the cotton used. Bales of 400 pounds are used in the table:

Countries.	Bales.	Per cent.
United States.....	8,520,000	55.72
East Indies.....	3,280,000	21.23
China.....	1,450,000	9.37
Egypt.....	750,000	4.92
South America, West Indies, etc.....	400,000	2.63
Africa, except Egypt.....	375,000	2.45
Asiatic Russia.....	200,000	1.31
Turkey.....	120,000	0.79
Japan.....	115,000	0.76
Greece, Italy, etc.....	25,000	0.17
Total crop of the world.....	15,235,000	100.00

The population of the world is about 1,500,000,000. The cotton crop of 1889-90 was about 15,235,000 bales, or 6,094,000,000 pounds, equal to about four pounds of raw material, or twenty yards of calico, for every man, woman and child on the face of the earth.

Cotton Receipts at Norfolk, Va.

The secretary of the Norfolk and Portsmouth (Va.) Cotton Exchange gives the following statement of receipts and shipments of cotton from the opening of the season, September 1, to October 31:

	RECEIPTS.		
	Through.	Local.	Total.
Net receipts since September 1.....	14,743	60,131	74,874
Net receipts 1891.....	35,401	116,803	152,204
Net receipts 1892.....	34,523	167,259	201,782

	SHIPMENTS.		
	Foreign.	C'wise.	Total.
Shipments from Sept. 1 to Oct. 31.....	21,462	26,400	47,862
Shipments same time 1891.....	92,559	73,290	165,849
Shipments same time 1892.....	16,272	100,498	116,770

Included in the coastwise shipments are 15,619 bales which have been exported on through bills of lading in Boston, New York and Baltimore, and which do not appear to the credit of Norfolk's exports.

Cotton Spinning in Japan.

Recently-published statistics show a wonderful growth in the cotton-spinning industry of Japan in the last few years. Previous to 1880 there was only one cotton mill in the whole country, but soon after the opening of 1881 many new mills were built, and at the end of 1885 the total number of cotton-spinning establishments in the country was fifteen, fourteen mills having been erected in the five years. During the five years following twenty-five additional mills were established, making a total of forty mills at the close of 1890. In 1891 no new mills were erected, trade

generally being in a rather depressed condition from several causes, chief among which were excessive speculations in railway and industrial undertakings and the disastrous earthquake in Central Japan. Cotton spinning was, of course, affected by the general stagnation in trade, and we are therefore not surprised to learn that four of the forty mills were idle during 1891. In the first six months of 1892 the spindles in two additional mills were stopped, the number of active mills on June 30th last being only thirty-four.

But although a number of mills have stopped work during the last eighteen months, the active establishments have largely increased their capacity, the number of spindles having increased over 165,000 from 1889 to 1891, while during the same period the quantity of yarn produced has increased over 115 per cent. The remarkable growth of Japan in the spinning of cotton is shown most forcibly in the following table:

Years.	No. of mills.	No. of spindles.	Yarn produced, Pounds.
1886.....	20	65,420	6,486,168
1887.....	19	70,220	9,708,922
1888.....	21	113,555	13,275,848
1889.....	28	211,899	27,993,503
1890.....	49	277,895	43,349,663
1891.....	36	377,162	60,468,342
1892 (June 30)....	34	324,800	41,138,791

The number of spindles in operation in the first six months of 1892 shows a decrease of over 52,000 as compared with the number in operation at the close of 1891, but the quantity of yarn produced in the first half of the present year, it will be noticed, is almost as great as the quantity turned out during the whole of 1890, all the mills having largely increased their facilities since that year, as the table shows. The number of hands employed in the thirty-four active mills in June last was 21,530, of which 16,110 were females and 5,420 were males. This number will be increased by over 300 hands shortly, as a new mill has just been completed at Fukuyama, in the province of Bingo, which will operate 4,600 spindles. Active operations are to begin at once.

As a natural result of the remarkable growth of the cotton-spinning industry the importation of raw cotton into Japan in late years has increased steadily, while the importations of foreign yarn have just as steadily declined. To be sure, Japan annually raises a considerable quantity of cotton within her own borders, but it is of an inferior quality, and can only be used to advantage when mixed with a better quality of cotton, and this other countries are called upon to furnish. Full statistics of the importations of raw cotton into Japan for the last six years are not available, but the figures given in the following table will show in part the greatly increased consumption of the raw material by the Japanese mills from three cotton-producing countries during the last three years. Bales of 400 pounds are used:

Countries.	1889. Bales.	1890. Bales.	1891. Bales.
British India.....	1,065	24,941	88,318
China.....	64,657	55,844	60,044
United States.....	238	5,915	17,657
Total.....	65,960	86,670	165,999

It will be observed that Japan now imports most of her raw material from British India, which in 1889 furnished only a very small portion of it, while China, which in 1889 was far in the lead, has not only taken second place, but has actually decreased her exportation of cotton to Japan by 4,613 bales. The United States is gradually gaining a foothold in the Japanese market for her cotton, the quantity exported from 1889 to 1891 showing a gratifying increase. Corea, although not mentioned in the table, also supplies Japan with a part of its raw cotton. This country is meeting with much

success in cotton culture, and is each year increasing its exports of the raw material to Japan.

The yarns spun in Japanese mills are usually coarse, ranging from 11s to 16s and 20s, so that the Japanese importation of Bombay (India) yarn has fallen off to a greater extent than that of Manchester, England, although the yarn trade of both India and England has suffered considerably, the importations into Japan having fallen from 63,252,852 pounds in 1888 to 42,291,200 pounds in 1890. English yarns fell from 23,734,000 pounds in 1888 to 17,007,000 pounds in 1891, while Bombay yarns dropped from 18,511,000 pounds in 1888 to 6,048,000 pounds in 1891. But Manchester is likely in the near future to lose a considerable portion of her trade with Japan in the higher grades of yarn, as a number of Japanese mills have commenced to spin 30s and 40s, and each year will bring about an increased production of the higher counts. Indeed, everything points toward the gradual closing of the Japanese market against foreign yarns and to the increased importation of raw cotton year by year.

Notwithstanding the rapid growth of the Japanese cotton-spinning industry, the financial condition of the cotton mills of the country in the last two years has been far from good. In 1889 nine of the twenty-eight mills in operation paid dividends of from 10 to 28 per cent., but in 1890 three of these mills were worked at a loss and the other six paid dividends of less than 5 per cent. Fall returns of the earnings for 1891 are not at hand, but partial returns for the early months of the year show that only three mills made small profits, the statements from the others showing a loss.

The shares of the different companies also exhibit a great decline in value since 1888, when they were all quoted at a high premium. By the summer of 1890, however, many had fallen below par, and it is now stated that in but few instances, if indeed any at all, are the shares of a company quoted at par, many of them being quoted as low as 50 per cent. discount.

The principal mill in Japan is the Osaka Baseki Kwaisha, which has a capital of \$1,000,000. It employs about 2,000 hands, of which some 2,000 are females and 900 are males. The Kanegafuchi mill at Tokio employs 1,731 hands in all, the Minge mill 1,676 hands and the Settu mill 1,567 hands.

It may be mentioned that although Japan imports annually a large quantity of raw cotton, there is also exported a portion of the native Japanese cotton. In 1891 the exports of Japanese raw cotton amounted to 290,000 pounds, or 725 bales of 400 pounds. All but 8,500 pounds, or a little over forty-one bales, was sent to Corea. The quantity exported in 1890 was only 400 pounds, or one bale, while in 1889 not a single pound was exported.

Southern Textile Notes.

THE Erwin Cotton Mills Co., which was incorporated in May last, is pushing the construction of its mill at Durham, N. C., and expects to have same in operation next spring. The company is capitalized at \$125,000.

THE Dalias Manufacturing Co., which has built a \$600,000 cotton mill at Huntsville, Ala., will hold a special directors' meeting on the 16th instant to consider an increase of capital stock. Everything is being made ready for the starting of operations in the plant at an early date.

THE Chicora Weaving Mill at Chester S. C., is now in full operation, running 300 looms day and night, and its product finds a ready sale throughout the country.

THE building for the new West Huntsville Cotton Mills at Huntsville, Ala., is about completed and the full equipment of machinery has been ordered. Operations are expected to commence about January 1.

RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department, on pages 368.]

Richmond & Danville Underlying Security Holders.

The committee appointed to look after the interests of the underlying bondholders in the Richmond & Danville system have made a careful investigation of the matter in hand and conclude that it is absolutely necessary that the holders of these bonds, and more especially of those upon which interest is in default, should combine for their mutual protection. A plan of working has been adopted which provides that the committee act for all the divisional bondholders of the Richmond & Danville system, but the pooling of the bonds of the various divisions is to be called for only when it is the judgment of the committee it may be necessary so to do in order to carry out its general purpose. It is held that it is for the best interest of the bondholders that the integrity of the system should be preserved, and if it should become necessary to sell the property for the payment of its debts it should be sold as an entirety. Should a majority in interest of the securities in default on any of the divisional properties so request, then the committee will endeavor to secure a separate disposition of such divisional property. The committee will undertake to represent in the pending litigation the interests of all the bondholders whose bonds may be deposited with it, and its work is to be confined solely to the protection and preservation of such bonds. An invitation is extended to the holders of bonds in default to deposit the same with the Mercantile Trust & Deposit Co. on or after November 10. These bonds are as follows: Georgia Pacific Railroad Co. consolidated second mortgage fives, Columbia & Greenville Railroad Co. second mortgage sixes, Danville & Western first mortgage fives, Asheville & Spartanburg first mortgage sixes, Clarksville & North Carolina first mortgage sixes, Richmond & Danville consolidated mortgage gold sixes, Richmond & Danville debenture mortgage sixes, Richmond & Danville consolidated mortgage fives. The committee is composed of J. Willcox Brown, John A. Whitridge, Skipwith Wilmer, F. M. Colston, James H. Dooley, John B. Ramsay, R. M. Venable, John Gill, Wm. H. Blackford, Frank P. Clark and John M. Nelson.

Railroad Notes.

JUDGE SIMONSON, in the United States Circuit Court at Charleston, S. C., has refused the prayers of William Bird & Co. and others in their suit against the Charleston, Cincinnati & Chicago Railroad. The suit was brought with the purpose of compelling the application of the earnings of the road to the payment of the claims of the plaintiffs for furnishing material before the bondholders could be satisfied.

The gross earnings of the Norfolk & Western for the fourth week of October were \$204,902, an increase of \$18,683. The figures for the month are \$876,144, an increase of \$58,754. The Chesapeake & Ohio has gross earnings of \$302,184 for the fourth week of October, an increase of \$11,292. The Mobile & Ohio's gross earning for the month of October are \$348,370, a decrease of \$50,890.

The Provident Life & Trust Co., of Philadelphia, Pa., has entered suit in the United States Circuit Court at Louisville against the county of Mercer, Ky. This county several years ago voted the sum of \$125,000 to aid in the construction of the Louisville Southern Railroad, and bonds to that amount were placed on the market. These bonds, it appears, have been repudiated and Mercer county refuses to

pay the coupons which have fallen into the hands of the plaintiff. The court is asked to see that the county makes good its agreement to pay the bonds and interest.

SURVEYS have been made at Ashland, Ky., for the new freight and transfer yards of the Chesapeake & Ohio. The Cincinnati & Huntington division will in the future terminate at Ashland instead of Russell, and a new 15-stall roundhouse and \$30,000 passenger depot will be built.

THE South Bound Railroad recently bought from the Ohio Falls Car Co. seventy-five ventilated box cars and from the Richmond Locomotive Works two mogul locomotives.

At a meeting of stockholders of the New Orleans & Northeastern Railroad, recently held in New Orleans, the following officers were elected: Charles Schiff, president; C. C. Harvey, vice-president; John Glynn, Jr., secretary, and H. H. Tatem, treasurer.

THE gross earnings of the Louisville & Nashville for the first quarter of its fiscal year ending September 30 were \$5,659,271 against \$5,485,951 for the same period of 1891, an increase of \$173,320. The operating expenses covering a mileage of 2,933 were \$3,645,319 against 2,860 miles, and \$3,453,713 for the three months of 1891.

THE Mobile & Ohio expended during the year ended June 30, 1892, \$218,070 for extensions, equipment, etc., and \$451,980 the preceding year, which amounts were provided for by sale of securities and advances from the treasury. The average rate per ton mile decreased .025 per cent., owing to the fact that a large proportion of the tonnage was competitive traffic.

THE Southern Pacific Railway Co. has filed its amended articles of incorporation in the county clerk's office at San Francisco, Cal. The certificate gives details of the thirty-six roads and branches which are included in the consolidation, the aggregate length being 3,000 miles. The incorporation is to endure fifty years from May 4, 1888.

THE addition of 1,000 new freight cars and three compound engines to the equipment of the Central of Georgia, which has been authorized by the court, will enable the road to handle a large traffic that its present rolling stock could not haul.

THE Baltimore Stock Exchange has listed \$100,000 additional West Virginia Central & Pittsburgh Railway Co. first mortgage 6 per cent. gold bonds, making the issue to date \$3,000,000. The total authorized issue is \$3,600,000.

THE New Orleans & Northwestern Railroad has completed its extension from Bastrop to Collins, La. The line, although a short one, will prove a valuable factor in the development of the country it traverses.

THE Atlantic Coast Line will, it is stated, make extensive improvements in its terminal facilities at Columbia, S. C. It intends putting in additional side-track to reach industries heretofore shut off from such a convenience.

THE holders of the San Antonio & Aransas Pass are uniting to have the road again placed in the hands of a receiver on the grounds that the certificates were issued under false pretenses, and that the reorganization committee did not live up to its contract.

A BILL for a receiver for the Tennessee & Coosa Railroad, which is the property of the Nashville, Chattanooga & St. Louis Railroad Co., has been filed in the United States court at Birmingham, Ala., on judgment.

A BILL has been introduced in the Georgia legislature which, if it becomes a law, would make a thorough vestibuled train a thing of the past in that State. It provides that all passenger trains be stopped at every station of more than 200 inhabitants. There is, however, but little likeli-

hood of such an extreme measure being adopted.

GENERAL NOTES.

Brief Mention of Various Matters of Current Interest.

WORK on the Ocmulgee river is being pushed forward rapidly, and within a short time the channel will be clear from Macon, Ga., to the sea. Congress appropriated \$25,000 for this work last session.

THE Elizabethton Shoe Factory, a new enterprise at Elizabethton, Tenn., is at work turning out 200 pairs of shoes per day. When all the machinery is in place its capacity will be larger and fine goods will be manufactured.

THE new cotton compress at Hearne, Texas, built by the Hearne Compress Co., has been fully equipped and is now in active operation.

THE Lake Charles Rice Milling Co., a \$200,000 stock company which is building a rice mill at Lake Charles, La., is hurrying forward the work of construction with the intention of having its plant in operation before December 1.

COL. G. W. SWARTZ, superintendent of the Florence (Ala.) Electric Light Co., has invented a new electric railway motor which, in connection with a new form of electric car and road-bed, he claims will make a speed of 120 miles an hour practicable. W. F. Hull, of Sheffield, Ala., is associated with him in this work.

THE securities of the city of Nashville, Tenn., is looked upon in financial circles as gilt-edged, as is evidenced in the very satisfactory results which attend the sale of this city's bonds. Lately \$100,000 of 4½ per cent. water works bonds were floated at par and \$3,050 premium.

THE Wheeling Coffee & Spice Co., a \$25,000 stock company recently formed at Wheeling, W. Va., to establish a coffee and spice mill, is now engaged in erecting its machinery and will be ready to begin business about November 15.

THE boulevard connecting Roanoke and Salem, Va., is rapidly nearing completion, and within the next two weeks it is thought that it will be opened. This will be one of the finest drives in the country, and, as it has been built altogether by private enterprise, it reflects great credit on those whose energy and generosity have planned and carried it through.

It is reported that a large cave, equal in size and beauty to that in Luray, has been discovered near Harrisonburg, Va. The discovery was made while blasting for rock. Thus far twenty-four rooms have been found and further exploration will, it is thought, open many more. People from all the neighboring towns are gathering at the place and collecting specimens of stalactites, some of which are remarkably beautiful.

THE new trunk factory to be built at Petersburg, Va., by Simon Seward & Co. will be quite a large affair. A site has been selected in the central part of the city, and a brick building more than 400 feet long, equipped with every modern convenience, will be erected. The most improved machinery for the manufacture of trunks and traveling bags will be put in.

THE committee of reorganization of the Fort Payne (Ala.) Coal & Iron Co.'s stockholders, bondholders and creditors met in Boston on November 5th, and have agreed upon a plan of reorganization. The plan proposes that a new company be formed with a capital say of \$500,000 to purchase the assets of the old company for the amount of its indebtedness. The bondholders

will be asked to take stock in the new company to the amount of their bonds and interest.

THE little town of Washington, La., promises to become an industrial centre of considerable importance, as efforts are being made to induce the location there of manufacturing establishments requiring cheap timber and cotton, both of which are in abundant supply. Surrounding the town are immense tracts of hardwood timber which is brought to the town by water. Already there are in operation in Washington a cotton factory, a saw mill, a steam brick-yard, a drain pipe and tile works, an oil mill, three tank factories, a cotton gin and a sash and blind factory. Labor, sanitary conditions and transportation accommodations are favorable.

OWING to a corn blockade at exporting points along the Mexican border, a shipment of a cargo of corn will be made from Kansas City via Galveston, Texas, to Vera Cruz. The steamship Tangier is now in Galveston awaiting the consignment. It is understood that the freight rate, all rail, via the Rio Grande to Mexican points is 85 cents, while by way of Galveston, rail and water, it is 72½ cents, exclusive of marine insurance.

Industrial Matters in Roanoke.

ROANOKE, VA., November 9.

Editor Manufacturers' Record:

The business activity in this city and section at present is gratifying, and the indications all point to increased activity in the near future.

The Pennsylvania Zinc & Iron Co., of this city, will erect a large plant at an early date for the manufacture of zinc oxide. They expect to turn out from six to ten tons of the oxide per day, and the plant will employ from thirty to fifty hands. The ore will be taken from the lands of the company near Ivanhoe, Va., at which point they own 300 acres, the mines on which are now being developed, and from which they are now shipping both iron and zinc ore.

The plant of the Roanoke Brick Co., which was recently burned, has been rebuilt on a much larger scale and fitted out with entirely new and improved machinery. They expect to resume work about the 20th inst., and will have a capacity of from 25,000 to 40,000 brick per day.

The Cushman Iron Co., of this city, manufacturers of and contractors in ornamental iron work of all kinds, have found it necessary, owing to the increased business, to establish a branch office at Richmond, Va., and the secretary of the company will go to that point within the next few days to take charge of the office.

The Roanoke Broom Factory, of which mention has heretofore been made, has begun operations, and is turning out a very fine class of brooms. The corn has now to be gotten from the North and West, but arrangements will be made to have this material grown in the country adjoining Roanoke.

The Novelty Wood Works, which began operations a few weeks since, though too late for the holiday trade, are busy filling a number of orders for house furnishings, etc., and the outlook for an increased business is good.

The committee on the Columbian Exposition of the Board of Trade is actively engaged in making arrangements to have Roanoke represented by a creditable exhibit at the World's Fair, and the indications are that their efforts will be very successful.

The Board of Trade is in correspondence with a number of parties contemplating establishing manufacturing plants here, and the indications are that the next year will be one of unusual development and activity.

H. W. ANDERSON,
Secretary Board of Trade.

Manufacturers' Record.

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BALTIMORE, NOVEMBER 11, 1892.

Notice to Advertisers.

The last forms containing advertisements are closed on Tuesday afternoon. New advertisements or changes should be received not later than Tuesday noon to ensure attention in the issue bearing date of the following Friday. Reading matter should be in our office on Wednesday, although late news can be received early Thursday morning.

We learn that a man named H. P. Hevenor has been soliciting subscriptions for the MANUFACTURERS' RECORD in Virginia and collecting money therefor. Mr. Hevenor has no authority to transact any business on our account, and we warn all people against dealing with him as our representative in any capacity whatsoever.

An attempt is being made at Macon, Ga., to organize a company to erect and operate a charcoal blast furnace at that place. It is said that ore could be brought from the section around Rome, Cartersville or Cedartown, limestone is handy and charcoal will be delivered for five and a-half cents per bushel. The idea has originated from a desire to use the waste left in cutting timber and from saw mills by making into charcoal. Our sincere advice in regard to this project is—don't! There are many localities in the South that offer much greater advantages, and a charcoal iron furnace needs every advantage that man and nature can provide. Under the most favorable conditions the manufacture of charcoal iron is not an alluring industry at present.

BANK clearings for the past ten months of this year, as given by *Bradstreets*, show a satisfactory increase over the corresponding period for last year, though less than for the same time in 1890. Clearings for the country at large are \$5,411,362,961, against \$5,382,363,217

for last year and \$5,745,923,179 for the preceding year. In the South the clearings were \$153,046,701, as against \$148,828,948 last year and \$168,870,355 in the year before. The greater part of this increase has come in the last four months. During the early part of the year the overproduction of cotton, coupled with great depression in price and an overstrained system of credit in the cotton area of the South, with a general apathy in business throughout the country, proved disappointing to those who looked for a general improvement. Within the past four months, however, a greater activity has become apparent in almost every line of business, and the outlook now is pronounced to be most promising.

In one of our exchanges we find a paragraph which states that in a report of experiments made to determine the comparative value of various kinds of stone for road-making, it is stated that slate and similar material is not satisfactory. Such a conclusion does not conform with results which have been obtained from shale and slate on country roads. In Pike county, Pennsylvania, there is a road some twenty miles long passing through a shale formation, and whenever any repairing is to be done this shale is used. The road goes over many hills, with some long stretches of level ground, and almost without exception is in remarkably fine condition. In several places in the South, in Georgia and Tennessee particularly, slate and shale have been used on some roads, and these are always in good condition, dry in wet weather and comparatively free from dust during long dry spells. While this material is not the best which could be used, it is in certain localities the cheapest, and, as results have shown, perfectly satisfactory.

Exporting Western Grain from New Orleans.

During the next six months it is expected that wheat shipments from Kansas and Nebraska will go to Europe by way of Kansas City and New Orleans. Shipments have already commenced to turn South, as Eastern merchants have ceased buying for lake shipment on account of the probability that navigation will soon be closed by ice. The all-rail rate from Chicago east is five cents a bushel more than by lake and canal and as much more than the rate to seaboard via Kansas City to New Orleans. The difficulties which were encountered last year in shipping to New Orleans will not be met this year. Trains can now cross the Mississippi river at Memphis, thus avoiding the expensive transfer by boat, and the enlarged facilities of elevators in New Orleans will enable them to handle grain in much greater quantities than last year. It is expected that about 2,000,000 bushels of wheat monthly will go from Kansas City to New Orleans for export during the ensuing six months.

Extravagant Economy.

Economy as a principle is commendable, but unless applied at the proper time and in the right place its good effect is lost. To save money, to reduce costs, to curtail expenses, do not always constitute economy. Under some circumstances such methods may result in

extravagance rather than in economy. Cheapness does not mean economy; it often means wastefulness to an extreme degree. We regret exceedingly the occasional manifestations of a tendency on the part of Southern purchasers to seek the lowest-priced machinery, disregarding quality, efficiency and durability. Of course, it is commendable in any purchaser to buy as cheaply as possible, to drive a good bargain in all transactions, but when this motive leads to the purchase of inferior machinery or the buying of discarded, second-hand machines, it loses its virtue and works great mischief.

If there be any one line of business in which the matter of quality ought to be the chief consideration it must be the machinery trade. The best machine is none too good for its work, and anything less means decreased efficiency, inferior work and shortened life. It is vastly more important to start with a well-built, serviceable machine than to save a few dollars in first cost. A large majority of buyers ask in their first question the cost of the machine under consideration, and subsequently consider the items of efficiency, workmanship and durability. Many men look first for second-hand machinery and buy new only when they cannot do otherwise. Now and then we see a man with limited capital fitting out his shop with second-hand machinery which he has gathered from the cheapest markets. We pity such a man, for in nine cases out of ten disaster awaits him. It were better by far to start on a smaller scale with less machinery, but with the best equipment that money can buy.

Fitting up a new cotton mill with old machinery that has fulfilled its period of usefulness in some mill is a thoroughly extravagant plan, and yet there are, we regret to admit, many people in the South who have not yet had their experience in such matters, who think that almost any kind of machinery will do for a cotton mill. Upon the minds of such men we wish to impress a few facts. It should be borne in mind that second-hand machinery has been discarded for some reason by another mill. If because worn out, it is worthless to another mill. If to give place to improved machinery, it will place its purchaser at a disadvantage in competition with other manufacturers. Whatever may be the cause, it is a self-evident truth that the reasons for the discarding of machinery by one mill ought to be sufficient reasons why another mill should not buy the rejected machinery. As a rule, the discarded outfit of a textile mill is but suited to the scrap heap.

Our attention has been called several times to another form of extravagant economy. Occasionally we see a man who has never designed a mill, and probably never managed one, but who has sufficient self-confidence to design and erect a factory without the aid of an architect or engineer. Such men usually start with the conviction that expert advice is a needless luxury, but they usually find when they have paid all their bills that even an exorbitant charge by an architect or engineer would have been less extravagant than overmuch self-confidence.

The mining industries furnish numerous illustrations of this same principle, and demonstrate even more forcibly than other lines of business the value of

expert professional advice and assistance. The services of a competent advisor are usually worth all they cost. Cheap advice, like cheap machinery, is economical only in outward form. In reality it is extravagant. It always pays to buy the best, whether it be silk, kerosene oil, machinery or professional advice. Anything less leads to trouble, disappointment and loss.

Electricity in the Kitchen.

Ten years ago the idea of using electricity as a motive power was regarded as almost chimerical; to-day not only is it an accomplished fact, but electricity is rapidly superseding all other forms of power. One year ago the statement that the same agent would be used as a source of heat in warming houses and cooking food was thought possible, but improbable. Several able electricians figured out the enormous loss of energy in transforming the current into heat, and showed, to their own satisfaction at least, that such a source of heat could never be commercially useful. To-day it is in use, and, so far as extended trials have shown, it is a commercial and scientific success.

Electric heating is yet in its infancy, but it is safe to predict that it will thrive and grow with a rapidity which will surprise its most sanguine well-wishers. In heating a home, can anything be more perfect than to have only to turn a switch and let the current do the rest? No fires to attend to, no chimneys to smoke, no dust blown about the room, the only visible sign being the heater, which if placed in the room would be neat and ornamental, or if placed beneath a register would be out of sight, the only exertion required being to turn a switch on or off as desired.

While this alone is a feature which will commend the invisible current to the housewife, there is yet another which in her eyes is more important—its use in cooking. In order to secure the best results, each cooking utensil is constructed with the resistance or heating coil as a part of it; thus each is its own stove, so to speak, and may be placed at any convenient point where connection with the current can be had. All manner of cooking appliances, from the all-important coffee-pot down through the list of pots, skillets and broilers to the oven, are thus arranged, and once the connection is made and the current turned on, the operation of cooking proceeds without interruption. In the evening food could be placed in the proper utensils, these connected with the house wires, and by a proper arrangement the latter could be led to the bedroom. Then in the morning the mere turning of a switch would be sufficient to start the breakfast to cooking. This sounds like a tale from the Arabian Nights rather than an existing fact, but it is a fact.

Through ignorance of its simplest laws many crimes and misdeeds have been laid at the door of the "deadly electric current," and these, repeated with numerous embellishments in the daily papers, are responsible for the widespread fear of electricity in any and every form. A charged electric wire is manifestly unsafe as a plaything, and it would be the height of foolishness to catch at a swinging wire to see if it was loaded. Among people who

are possessed of average intelligence such acts would not be likely to occur, and as in house-wiring the wires are all placed so as to be out of reach, where there is little probability of their ever being touched, and further, as they are all securely covered, so that even though they were touched they would be harmless, there is absolutely no bodily danger to be apprehended. When led to sockets, whether for lamps or for the plug which would make connection with the heating arrangements, the wires are guarded, and neither from them, the connecting cord nor the heater itself need there be the slightest risk. Wiring properly done is as safe, both as to fire risk and personal injury, as gas or water-piping.

As to the cost of heating or cooking by means of this agent, it is stated that the ordinary cooking utensil requires the same amount of current as a sixteen candle-power lamp. The oven consumes three times this amount, and a fair sized house heater about five times as much. Taking the cost of one lamp at eighty cents per month, which represents about the average price, then each utensil, if used in cooking three meals a day, or ninety per month, would cost nine-tenths of a cent per meal. Assuming four cooking utensils and the oven to be required for each meal, the cost per meal for heat would be six and three-tenths cents, or for ninety meals \$6.57 per month. For house-heating the average cost per heater per day would be about four and one-half cents, or \$1.35 per month, or presuming that four heaters are in use, the total fuel bill, including that required for cooking purposes, would be about \$12.00 per month. As against this cost must be considered the average coal bill, the repairs and the inconveniences attending the use of coal.

It is safe to predict that, notwithstanding its present higher cost than coal, electricity will be the fuel of the future just as truly as it is the light of the present and is becoming the motive power of a time not far distant. As to the latter, in the report presented at the Cleveland meeting of the American Street Railway Association by a committee appointed to examine into the relative merits and cost of operation of horse, cable and electric railways, the following significant statement occurs:

We believe that cable road practice has reached the stage where but little room is left for improvement. They have been developed, improved and operated by the best engineering skill which the country affords. Nearly all are on a good dividend-paying basis; but whatever the past experience of the two systems has been, or whatever the present status of the two may be, we are only voicing the convictions of well-informed engineers when we say that electric systems will continue to increase in efficiency (by which is meant earning capacity) until all rivals are distanced and only one method of rapid transit is recognized—the electric car.

This statement, broad as it is, is based upon observation and an intimate knowledge of the means of transit named, and further, is amply proven by the remarkable increase in the number of electric roads coming into existence.

Cotton Crop Prospects.

The cotton receipts from September 1 to November 1, as given by Secretary Hester, of the New Orleans Cotton Exchange, show a still greater decrease compared with last year than did the month of September. The following figures show receipts to November 1, as

compared with the two previous years:

	1892-93. Bales.	1891-92. Bales.	1890-91. Bales.
Receipts at ports to November 1.....	1,526,754	2,195,513	2,684,003
Net shipm'ts over-land.....	147,433	269,987	164,813
Southern mill tak-ings (net).....	131,457	127,136	116,238
Interior stocks in excess of Sept. 1	184,114	270,324	234,671
In sight Nov. 1..	1,989,758	2,862,960	2,599,725

This shows a decrease in receipts of 873,202 bales from last year for the same period and 609,967 bales less than the preceding year. The following figures show the movement of the crop prior to November 1 during the past two seasons, as compared with the present one:

	1892.	1891. Bales.	1890. Bales.
In sight Nov. 1....	1,989,758	2,862,960	2,599,725
Per cent. ditto.....		31.68	30.04
Brought in sight after Nov. 1.....	6,172,419	6,052,872	6,052,872
Per cent. ditto.....	68.32	68.32	69.96
Total crop.....	9,035,371	8,652,577	8,652,577

It will be noted that during 1890 30.04 per cent. of the crop was marketed before November 1, and in 1891 31.68 per cent. Even assuming the amount marketed thus far this year at 30 per cent. of the crop, the latter would be but 6,632,526 bales. Taking into consideration all possible delays from late season, the few points at which cotton is being held back and other things which would tend to retard receipts for the past two months, it must be admitted that certainly not less than 28 per cent. of the crop has come in sight. On this basis the total would be only 7,106,278 bales. Belief in a short crop is now generally held by competent judges. Atwood Violet & Co. give their estimate as 7,250,000; A. B. Shepperson estimates it at 7,500,000, and other authorities give it at from 7,000,000 to 7,750,000 bales. The probabilities are that 7,500,000 is a maximum figure, and all information obtainable leads to the belief that the actual crop will not greatly exceed 7,000,000 bales.

Against the possibilities of a much higher price, owing to the smaller crop, is the spinners' strike in England, and also the probability of a large crop in Egypt and India.

The former disturbance may or may not be a protracted one. Persons familiar with the situation think not, but there is a certainty that unless some unforeseen disaster occurs, the crops of the two countries named will be unusually large, and may in part offset the advantages otherwise arising from reduced production in this country. Indian cotton exports to Great Britain have decreased steadily since 1865; those to the Continent have increased somewhat, but the sum total of exports has grown smaller with each succeeding year and the home consumption has increased. With Egypt there is no home consumption, and 96 per cent. of its crop goes to England and the Continent, about 4 per cent. coming to the United States. During the year both India and Egypt have increased their acreage in cotton, and it is estimated that their crops will be unusually large. While this cotton cannot replace our product, it can and in time will affect the market and act as a check on values in case of under-production here.

Be this as it may, the price of cotton has already advanced very materially

both here and abroad, and is likely to go still higher before the season closes.

Mr. Ellison, in his annual review of the cotton trade, estimates the world's consumption during 1892-93 as follows:

Consumption of	Esti- mated re- quirem't 1892-93. Bales.	Actual Con- sumpt'n 1891-92. Bales.	Actual Con- sumpt'n 1890-91. Bales.
American.....	8,418,000	8,218,000	7,857,000
Brazilian.....	147,000	147,000	213,000
Egyptian.....	570,000	570,000	540,000
Smyrnia.....	53,000	53,000	20,000
W. Indies, Peru, etc.	78,000	78,000	87,000
East Indian.....	1,300,000	1,132,000	1,500,000
Total.....	10,566,000	10,198,000	10,217,000
Average weight, lbs.	468	468	463
Bales of 400 pounds.	12,353,000	11,933,000	11,839,000
Consumption per week.....	237,550	229,481	227,673

Reducing the estimated consumption of American cotton to bales of 500 pounds, there will be required 7,879,248 bales to meet the actual needs of spinners. At the beginning of this year the stocks at ports and interior towns left over from the last crop were 532,951 bales. Adding these to the estimate of the crop based on 28 per cent. in sight, the total would be 7,639,229 bales. Admitting that spinners' takings during the last season were 500,000 bales more than usual, and deducting the estimated consumption from the estimated crop with this amount added, the stocks at the end of the present season would be but 259,981 bales in excess of the requirements. These facts give good reason for the advance in price and for the presumption that it will go higher.

With cotton selling at a good price next spring there will be temptation again to plant a large acreage, and if this is done the following year will mark even a greater decrease in values than has prevailed during the past one. Planters have taken a good start in the right track this year in having not only reduced their acreage of cotton, but having also grown foodstuff, and this plan it will be to their advantage to follow. Cotton as a surplus crop will not, in times of depression, carry with it disaster and ruin as it does when it alone is grown, and when upon it depend food, clothing and shelter. A plantation, no matter how large or small, is but a poorly managed institution if upon it are not grown food supplies for both men and beasts.

The Force Bill is Dead.

The fear that the force bill would become a law, and that its effect would be to create race troubles in the South, has unquestionably had a considerable influence upon all Southern business matters for the last year or more. Southern people have dreaded a measure which had in it the possibility of becoming a menace to every interest of their section, and many Northern business men and capitalists have been deterred from making investments in the South for fear that this force bill, if enacted, would bring about such a condition of affairs as existed in reconstruction days. Right or wrong, these are the feelings with which the people of the South and the business men of the North acquainted with Southern affairs have regarded this measure.

Happily the force bill is now dead beyond any possibility of ever being resurrected. The South is freed from any possible danger on that score, and the writer believes that this will prove of great benefit to that section. New energy will be infused into the people of the South, and once more will Northern capital be turned Southward for investment in greater volume

than ever before. Probably no man is in a better position to speak authoritatively upon this subject than Henry F. De Bardeleben, who has been one of the foremost leaders in Southern progress, and who is to-day probably the largest stockholder in the Tennessee Coal, Iron & Railroad Co. A few days ago Mr. De Bardeleben said that while he personally favored protection, he was willing to forget that in his desire to see the South safe from the force bill. "So long as that danger threatens us," he said, "we cannot draw Northern money South, but relieved of that, capital will pour into this section as it did during the great Alabama boom of 1886-88."

It was under President Cleveland's administration that Birmingham made its marvelous development, which attracted the attention of the whole country to the South, and from Birmingham this activity spread to neighboring towns and then to other States. Once more Mr. Cleveland becomes President, and though protectionists may fear the possibility of radical changes in the tariff, and claim that this will upset the industrial interests of the South as well as of the country at large, the writer ventures the prediction that the coming four years will show a degree of activity in Southern development and an investment of outside capital in that section greater than has ever been seen in the past. Before the winter is over there will come renewed confidence in Southern investments, business of all kinds will become more active and the South will again be blessed with a period of great progress and prosperity. Such, at least, is the opinion of the writer. RICHARD H. EDMONDS.

At an adjourned stockholders' meeting of the Carper Railway Engine Co., held in Roanoke, Va., during the past week, the following officers were elected: President, D. B. Strouse; secretary and treasurer, W. T. Younger; board of directors, W. T. Younger, D. B. Strouse, W. Griffin, J. W. Harvey, W. B. Bowles and William Bushing, of Salem, and G. S. Hastings, of New York. The company decided to proceed and introduce their machinery in the South and West. It was reported that the five engines in use on the Norfolk & Western Railroad were working very satisfactorily.

A MEETING of the executive committee of the Interstate Mississippi River Improvement and Levee Association was held in Memphis, Tenn., recently. It was resolved that the chairman be authorized to employ one or more competent men to represent the association in Washington during the session of Congress in December. No other business of importance was transacted, but it was decided to push the matter of river improvement as vigorously as possible. Those present at the meeting were: Chairman Charles Scott, Secretary W. A. Everman, J. W. Clapp, Patrick Henry, W. G. Yerger, George Arnold, R. C. Graves, Thomas W. Shields and E. C. Carroll.

It is reported that a company is being organized to purchase 20,000 acres of land in Craig valley, Va. This land will be divided into ten plantations for the cultivation of such products as the soil is best adapted to. A large tract will be set apart for sheep and stock raising. The location will be near the towns of Craig City and New Castle.

COTTON factors of Macon, Ga., claim that the Central Railroad is carrying cotton past that city to Savannah, and are preparing a petition for presentation to the railroad commissioners asking them to command the Central Railroad to show cause why they should discriminate against Macon cotton factors. The development of matters is being watched with interest in both Macon and Savannah.

MECHANICAL.

Notes on Machine Shop Practice.

By Albert D. Pond.

THE designer who does not take the foundry and forging shop into his plans leaves two important factors of economy out of his calculations, for next to the machine shop these two departments determine whether a profit or loss shall be made in the building of machinery for sale. It is not enough that the designer gets working results in his creation. There is the more important question beyond that, which is, will the article be a profitable thing to manufacture? A machine composed of parts, many of which are cored in complicated ways or which are made from patterns of crooked shapes, or which have quantities of loose pieces upon them, or must be made in multiple part flasks, will be found expensive in cost. Crooked and expensive forgings quickly increase the expense, not so much by this prime cost as by the operations of making them afterwards. Hence, there may well be made in all designs searching examination of the cast and forged parts in consultation with an expert foundryman, for such a man can assist by the substitution of malleable castings as greatly as in the cheapening of the ordinary foundry work.

DEMONSTRATE IT. Don't make a guess at it and a drawing of it, and then argue and bluster about it. Build it in some shape and let it prove or disprove your theory by its works. Nine in every ten plans have to be greatly modified in practice.

THE extent of the strains and tensions placed in steel and iron by rolling and hammering processes are not even suspected by those who have not made the subject an exhaustive study. Still an idea of this thing may be had from the examination of any considerable operation in forging. Consider what takes place in forging a crankshaft for a marine engine having four cylinders. Every blow tends, first, to extend the surface, and, second, to change the relations and positions of the internal molecules the one to the other. Every bending operation extends the structure on one side and compresses it on the other, and every shoulder or collar swaged on the piece produces every variety of tension and strain. Now, no amount of annealing will nor can neutralize any great part of these tensions, and hence much of the strength of forged material is consumed by being internally strained, some parts of it to the point of rupture.

IN reducing wire by swaging, for needles or similar pieces, from a large to a small diameter—for instance, from one-tenth of an inch to three-one-hundredths—it is not practical to, in all cases, prevent the "piping" of the blank thus reduced. The cause of piping in this case is easily comprehended, and the writer is of opinion that this cause is always present wherever this effect occurs, whether it be in the needle shop or steel works. He further believes that in nearly every case piping is due to this cause. Every blow of the swaging dies causes the metal to "flow" lengthwise, because it forces it to occupy a reduced diameter. Now, a very crude examination of the swaging operation will indicate that it can exert but little force at the centre of the rod in comparison to that exerted upon the surface. Hence, the metal nearer the surface is driven ahead of that at the centre, and the result is a pipe or tub in effect; that is, a part of the centre of the piece is not solidly united, but has a seam within it just where the point of the needle will be made. This, of course, will cause a point to split or break when the piece is finished, even if the piped effect cannot be seen earlier. Thus, such needle blanks are to be made considerably longer than

the proposed finished product and cut off.

Wire drawn through dies in the ordinary manner often is piped from this same cause of the flow on the surface being greater than that at the centre. Square bars, on the contrary, do not often exhibit a piped interior, because, if they are hammered, the metal is worked through its entire section between the hammer and the anvil. This, of course, is in the presumption that the hammer is proportioned to its work and not too light. It is possible that piping comes in some cases from a hole in the ingot being carried through the whole of the processes to the finished part, but it does not seem probable that it should always be at the centre of the wire or rolled bar, if from that cause.

THERE is a saving generally made in large pieces by doing as many operations as possible at one adjustment of the piece and on the machine that handles it. On the other hand, there is generally a saving made by dividing the operations on small work into as many parts as there are different cutting tools to operate upon the pieces.

BEYOND the facts that a man knows his business and is industrious and faithful in the performance of it, there is the question of loyalty to the appointed authorities. There are many very able men in this land who have failed to hold their grip from their inability to be loyal to their superiors. Now, this question is a very simple one, and it practically is this—a man is disloyal to the concern that employs him if he is not true to his immediate superiors, for if that concern keeps an officer in place it is supposable that it knows what it is about, and his subordinates must not question his fitness while he holds the position. A workman, again, who is disloyal to his superior places himself in a bad light, for it is fair to say that one who is unfaithful in a low position will not be loyal in a higher one. Hence, a man who intrigues to elevate himself is rarely successful, because he could not be trusted, and will probably be disloyal to those above in any higher position he might hold.

The Norwood Harness Appliance.

An ingenious contrivance, invented and patented by T. E. Norwood, of Baltimore, Md., has been designed for attaching a horse direct to carriage or buggy shafts without the use of traces or a single-tree. The appliance consists in a little case fitted to the inside of each shaft where the supporting straps from saddle ordinarily rest. Within this case are two plates held apart by spiral springs, and passing through the plate is a pin which engages a catch that passes through the case to the outside (the inside of the shafts) and is then formed like a ring, and on this the harness is strapped. Both the plates and the case have a longitudinal slot in them, allowing the pin and catch to play back and forth. By a simple releasing device the catch can be allowed to pass out of the case, thus releasing the shafts from the harness and allowing the horse to step out from them.

The advantages claimed for this are that such an arrangement reduces the strain on a horse's back to almost nothing, as, when properly adjusted, the shafts come in a line with the shoulder, and the pull is direct without any downward drag as with the ordinary form of harness. The springs in the case equalize the strain of pulling without the sawing motion ordinarily noticed, and in starting a load the movement is free from strain or jerk. Another feature is that the springs take up the alternate side motion of the horse either in trotting or walking. In hitching up and unhitching the labor and trouble are reduced to almost nothing, as all that is necessary is to release the catches on each side and take the horse from the carriage or wagon;

then by unbuckling the belly-band and collar the harness can be removed over the horse's head. Horsemen who have examined this device pronounce it far superior to the usual way of fastening horses to wagons, both on account of the smaller weight and strain on the horse and because of its simplicity.

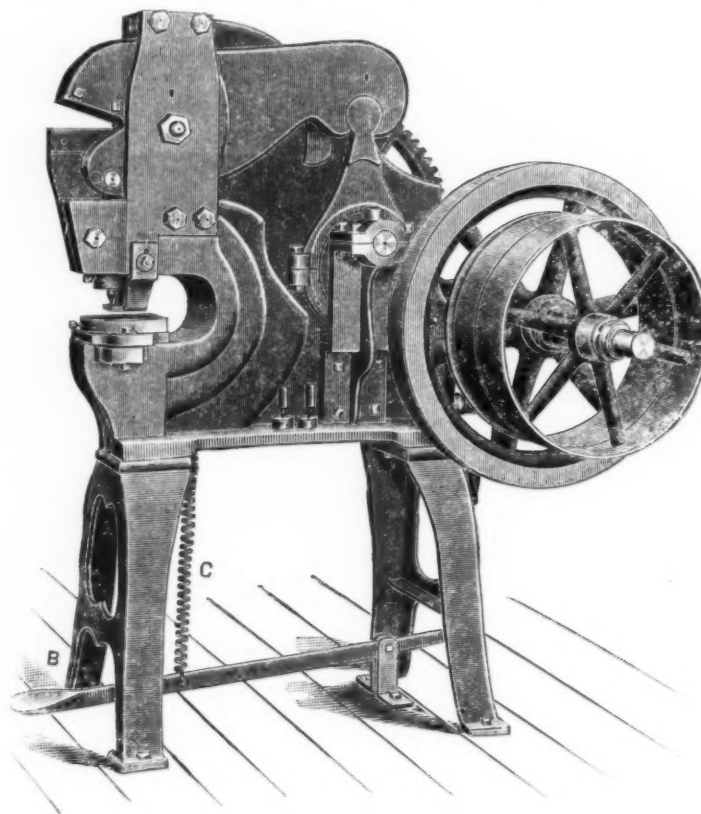
Improved Power Punch and Shear.

A new and improved power punch and shear, shown in the accompanying illustration, has been put on the market by Godfrey J. Bremer, of Kalamazoo, Mich. These machines are principally adapted for cutting and punching rough stock used in the manufacture of railroad cars, agricultural machinery and wagons, and for general blacksmithing purposes. In designing the machine great care has been taken to insure strength, the ability to stand rough usage, and all material employed in its construction has been selected with the same purpose in view. The workmanship and finish on the machine are first-class in every respect.

The machines are made in three sizes, weighing 800, 1,250 and 2,500 pounds,

J. H. Messick, clerk of the county court of Hamilton county, endeavored to collect this tax from the East End Land Co., of same county, and upon their refusal to pay entered suit, which has been decided in his favor. The main defense of the land company was that the law was unconstitutional and void in that it was unequal or class legislation, permitting an individual to buy, sell and deal in real estate without paying a privilege tax, while it taxes the company for doing the same thing; that it is a double taxation in that the company has paid its ad valorem tax as other land owners, and that this is only an additional tax on its lands, and further, that it amounts to a tax on the right of the company to exist as a corporation, and if this was the object of the legislature, then all corporations or stock companies would have to be taxed alike, otherwise it would be class legislation. Chancellor McConnell, in considering their point, says:

The corporate owner has many advantages over the individual in the way of limiting personal liability in the use of the stock by members in many ways not necessary to name, the better way of transferring titles, the easy concentration of capital in one instead of many persons, and



IMPROVED POWER PUNCH AND SHEAR.

respectively. No. 1, the smallest size, will cut a piece $\frac{3}{4} \times 4$ inches, round $\frac{3}{8}$ inch, punch $\frac{1}{4} \times \frac{3}{8}$ inch, and punch in the centre of 10 inches. In this machine the fly-wheel is 20 inches diameter and weighs 175 pounds. The pulleys are 20x3 inches and gears 7 to 1x2-inch face. The average speed of the fly-wheel is 150 revolutions per minute. The larger size machines punch in the centre of 14 and 16 inches, respectively, and are made heavier and stronger in proportion. The opening in the bed and some other dimensions can be slightly changed to suit special requirements.

A Legal Decision Against Land Companies.

A case of considerable interest and importance to real estate companies has recently been decided by Chancellor McConnell in Chattanooga, Tenn. In 1889 an act of legislature was passed in that State by which land stock companies having a capital invested in land business of \$100,000 have to pay a privilege tax of \$500, other amounts also being given and the tax graded by the amount of capital invested,

others not necessary to name, and for all these advantages granted by the State it does not look altogether unjust that the State, for the benefit of others not holding these advantages, might demand some return.

In regard to the authority of the legislature to tax business of this kind, he says:

The authority assumed so to do, whether properly or not, was clearly under that clause of the constitution which, after providing that "all property shall be taxed according to its value," so that taxes shall be equal and uniform, that no one species of property shall be taxed higher than any other species of the same value," makes an exception to the general rule thus established by declaring that "the legislature shall have power to tax merchants, peddlers and privileges in such manner as they may from time to time direct." This broad power granted to the legislature and how it may be exercised has been before our court of last resort in almost every conceivable shape, and in no case called to my attention or that I have been able to find after careful investigation has the apparently unlimited power of the legislature, given under this exception, as to levying taxes on merchants, peddlers and privileges, ever been in any way contradicted or abridged by this court.

The case has been appealed.

THE Oxley Stave Co., of Cincinnati, Ohio, has established a Southern depot at Chattanooga, Tenn.

COAL AND COKE.

The Sabinas Coal Field of Mexico.

By E. G. Tattle.

The Sabinas coal field is located in Mexico about seventy miles south of Eagle Pass, Texas, and is estimated to cover about sixty square leagues included by the Soledad estate in the State of Coahuila. Diamond drill explorations have determined the existence of coal underlying the region with a great degree of continuity, although the section varies at different localities.

In the northern part of the field some developments have been made in the region known as the Upper Sabinas coal field, about three miles from Sabinas, on the Mexican International Railroad, where the coal lies about 300 feet deep and is four to six feet thick. The coal areas now being developed are near Hondo, on the Sabinas river, in the southwest part of the field. Mining operations are being carried on here by the Alamo and Coahuila Coal Companies, operating three mines known as the Alamo, Hondo and Colon mines. Coal has been mined in this region for nearly ten years.

The coal of this region is semi-bituminous, making a good steaming and coking coal. The coal is generally reached by shafting, lying 200 to 300 feet below the surface, although at a few points it is reached by slopes. The coal in the Hondo field is about three feet high, having a dip of 4 per cent. to the southwest. The output of these mines is 350 to 400 tons a day each.

At the Hondo mine a coal-washing plant is in operation with a capacity for treating 600 tons a day for coking. The mine-run coal is screened to obtain large coal for shipment, and the small coal is washed prior to coking. A plant of nearly 100 coke ovens is in operation, producing a firm, hard coke of forty-eight hours' burning. The type of ovens used is the "beehive," twelve feet in diameter and six feet high.

The coal produced is principally supplied to the railroads in Mexico and to the Southern Pacific Railroad in Texas. The coke produced is used at lead and silver smelters throughout Mexico and at iron works at Durango.

The analyses of the coal and coke are given in the following tables:

ANALYSES OF COKE, COAHUILA COAL CO.

Lower Hondo coal from prospect hole 180 feet deep. Analysts (1) Ricketts, (2) Froehling:

	1.	2.
Moisture.....	9.39	9.72
Volatile combustibles.....	19.75	26.145
Fixed carbon.....	61.36	64.934
Ash.....	14.65	13.831
Sulphur.....	0.35	0.37
	99.50	100.000
Specific gravity.....	1.39	1.474
Weight of one cubic yard, lbs.	2,342	
Crushing resistance per cubic inch, pounds.....	1,115	
Elastic limit.....	560	
Absolute heating effect in terms of pure carbon.....	75.73	64.15.86

No. 1 coal burns well, giving red ash, semi-bituminous, quite a long flame, coke very fair. No. 2 yields 78.95 per cent. of coke, with 17.51 per cent. ash.

Upper Sabinas coal: No. 3 from Hondo mine 240 feet deep; No. 4 from bore hole 217 feet deep. Analysts (3) Ricketts, (4) Froehling:

	3.	4.
Moisture.....	1.495	0.575
Volatile combustibles.....	19.79	25.325
Fixed carbon.....	60.625	58.750
Ash.....	17.33	15.265
Sulphur.....	0.85	0.144
	100.000	100.000
Specific gravity.....		1.363

ANALYSES OF COKE, COAHUILA COAL CO.

Lower Hondo coal from Hondo mine. Analysts (1) Ricketts, 1889; (2) Froehling, 1890; (3) Fulton, 1889; (4) Fulton, 1891:

	72-hour coke.	
	1.	2.
Moisture.....	1.265	0.28
Volatile combustibles.....	1.445	1.97
Fixed carbon.....	78.70	84.50
Ash.....	17.68	13.25
Sulphur.....	0.71	0.796
	3.	4.
	72 hr.	48 hr.
Moisture.....	0.58	0.43
Volatile combustibles.....	1.105	1.39
Fixed carbon.....	79.97	83.07
Ash.....	17.53	14.24
Sulphur.....	0.81	0.82
Compressive strength per cubic inch equals one-quarter of ultimate strength.....	103.0	158.0
Height of furnace charge supported without crushing, feet.....	41.0	63.0
Hardness.....	1.31	2.50
Specific gravity.....	1.80	1.77

Hondo, Coahuila, Mexico.

Cumberland Coal Shipments.

The shipments of coal from the Cumberland region for the week ended November 5 and for the year to that date have been as follows:

Companies.	Week. Tons.	Year. Tons.
Borden Mining Co.....	7,139.14	268,501.15
Consolidation Coal Co.....	21,268.18	775,647.05
Union Mine.....	4,685.01	146,266.11
George's Creek Coal & Iron Co.....	8,057.13	249,948.10
Swanton Mining Co.....		5,162.00
Potomac Coal Co.....	3,062.14	119,615.15
Franklin Cons. Coal Co.....	2,466.04	59,585.16
Piedmont Cumb. Coal Co.	856.01	10,121.01
Barton & George's Creek Valley Coal Co.....	4,428.03	170,167.18
Big Vein Coal Co.....	1,054.17	55,456.12
Anthony Mining Co.....	236.15	8,395.04
W. Va. C. & P. (Elk Garden Mines).....	7,940.14	302,579.12
Atlantic & George's Crk Coal Co.....	872.04	35,079.09
Davis Coal & Coke Co.....	1,902.00	96,709.00
Thomas Mine.....	2,481.15	93,454.17
Davis and Elkin Mine.....	1,440.15	63,674.07
Cumb. Coal Co. (Douglas Mine).....	1,127.00	55,073.00
Elk Garden Big Vein Mining Co.....	480.07	33,030.14
Hampshire Mine.....	566.07	16,840.16
Big Vein Coal Co.....	85.07	3,338.02
American Coal Co.....	8,758.02	339,554.19
Maryland Coal Co.....	7,071.17	235,888.01
New Central Coal Co.....	4,362.17	171,863.19
Total.....	90,285.05	
Previously.....	3,150,099.18	
Aggregate.....	3,240,385.03	3,240,385.03

COKE SHIPMENTS OVER WEST VIRGINIA CENTRAL & PITTSBURG RAILWAY.

Companies.	Week. Tons.	Year. Tons.
Davis Coal & Coke Co.....	1,745.00	44,314.00
Thomas Coke & Coke Co.....	163.08	7,507.16
Cumberland Coal Co.....	216.00	14,866.00
Total for week.....	2,124.08	
Previously for year.....	64,493.08	
Year to date.....	66,617.16	66,617.16
Same period last year.....		66,998.00

Pocahontas Coal at Toledo.

It is learned that a contract has been made between the Columbus, Hocking Valley & Toledo and the Norfolk & Western whereby the Hocking Valley is to haul daily 3,000 tons or more of the Norfolk & Western's Pocahontas coal to Toledo. This coal is esteemed to be the best soft coal in the country, and will soon become a large competitor in the western and southwestern bituminous coal markets. Heretofore it has been confined to Eastern markets, where the aggressive coal policy of the Norfolk & Western has made it an important factor, and a trade has been built up that places the road next to Pennsylvania as a soft coal carrier. The opening of the Ohio extension of the Norfolk & Western through the Pocahontas fields to the Ohio river gives the needed Western outlet. The development of coal fields has been progressing for some time prior to the opening of this extension for traffic, and by January 1 it is calculated that the shipments through this gateway will be

well under way. The pronounced policy of the company will be to enlarge its markets. It has coal to supply and facilities to transport from 7,000,000 to 10,000,000 tons per year, and expects in the course of time to work up the yearly output to those figures.

Coal and Coke Notes.

THE exports of coal from the port of Norfolk, Va., from January 1, 1891, to November 4, 1892, inclusive, as cleared by William Lamb & Co., agents at Lambert's Point, is as follows: Foreign exports 4,714½ tons, coastwise exports 34,012½ tons; total for week ending November 4, 38,727 tons. The total exports for the month of October, both foreign and coastwise, were 166,134½ tons, and the total port shipments to November 4, 1892, were 1,342,846½ tons.

L. N. FARLEY, of Sequachee, Tenn., writes that he has opened an 8-foot vein of good hard coal on his tract of 700 acres of coal land. This vein is in the lower measure, and there are three others above it. He states that several experts have given favorable reports of the coal and intends at once forming a company to develop.

ALMOST all the operators on Big Tom's creek, near Coeburn, Va., are ready to begin the shipment of coal as soon as the tracks of the Norfolk & Western's extension reach their tipple, which will be at a very early date. The Kentucky Coal & Coke Co., which has been prepared to ship for some time, is now making another opening on the other side of the mountain, just opposite their tipple.

THE Wells Branch Coal Co., chartered in West Virginia, during September, has organized by the election of William D. Janey, of Ceredo, as president; Daniel Filter, of Philadelphia, Pa., as secretary, and C. C. Coe, of Kenova, as treasurer. The company's capital stock is \$100,000, of which \$15,000 has been issued and subscribed. Coal lands have been leased, and a minimum output of 180,000 tons yearly is proposed.

WORLD'S FAIR NOTES.

What is Being Done Towards Representing the South at Chicago.

TENNESSEE.

The schooner Mary, built by Captain Bettes at Clifton, on the Clinch river, to carry a floating exhibit from Tennessee, has arrived in Chicago. It is loaded with products of East Tennessee, including gold, silver, copper, zinc, fifteen kinds of marble, onyx and relics from Tennessee battlefields. The route was down the Tennessee river to the Mississippi, then up to the Illinois, and thence through the canal, making in all a voyage of 2,000 miles.

SOUTH CAROLINA.

One of the most interesting of the curios to be sent from Columbia, S. C., to the World's Fair will be a photograph which is said to be the first taken in America. It is the picture of Major J. G. Gibbs, and was taken December 15, 1854, when this gentleman had just returned from Paris, where Daguerre had just discovered his process of photography. It is printed on the corner of an old yellow sheet of writing paper, and while somewhat indistinct, the likeness can be plainly perceived. The Women's Central World's Fair Club has secured many interesting Indian relics and other curios which they will send.

FLORIDA.

Florida's State building at Jackson Park, Chicago, is now under construction and work on it is progressing well. The foundations are finished and the frame work for the walls is being put up. Since it is to be a reproduction of Fort Marion at St. Augustine, its unique architecture and historical associations have caused it to attract

as much attention as any other State building on the grounds. Commissioner Jackson will endeavor to obtain at the coming Pensacola Tobacco Fair some good exhibits of Florida-grown tobacco for the Columbian Exposition.

By request of the Horticultural Department, Mr. Plant is forwarding from the Tampa Bay Hotel gardens a carload of choice plants, and next spring will send a larger number. These, with those already received or expected from the Ponce de Leon gardens, will make a very beautiful display.

Mrs. Ellen Call Long, whose efforts to introduce silk culture in Florida have been untiring, has had made from silk produced in Florida an elegant American flag, and has presented the same to Mrs. Potter Palmer, the head of the woman's department of the World's Fair.

KENTUCKY.

The appropriation made by the legislature for a Kentucky exhibit is not yet available for the purpose intended, owing to a constitutional point being raised as to its legality. The commissioners at last advices had not determined what course to take, and will probably await the action of the courts.

LOUISIANA.

The picture of Acadian life in Louisiana will form a prominent part in the State's exhibit. At the last meeting of the Woman's Auxiliary, Mrs. Paul Leeds, delegate from New Iberia, said she hoped to have the peasant life of the Acadians well depicted at Chicago. One of the rooms in the State building will be set apart for this exhibit, and fitted out in simple fashion like the homes of the peasants, furnished with looms and wheels, cards and cotton, the representation being completed by the women weavers plying the shuttle. Part of the room will be converted into a boudoir decorated with the fabrics woven on the loom, and other articles for use and ornament will be shown. Mrs. Preston Johnson hopes to get permission to use parts of Charles Dudley Warner's articles on the Acadians, written in 1887, and wants to have these, together with parts of Evangeline and a sketch of the Acadians, bound in cloth woven by these people and ornamented by their artists.

The creole kitchen department will be in the hands of a stock company and appear as an annex to the Louisiana building. The contract for the construction of the State building has been let at a cost of \$14,500. The World's Fair Association has decided to have the grounds about the building beautifully laid out and embellished with all the plants and trees and shrubs typical of Louisiana. The structure will be a frame one, and represents an old style plantation house, with the lower story cemented and ornamented in characteristic style. Tall columns, broad galleries and tiny panes of glass will form distinctive features of the famous mansions of days gone by.

MARYLAND.

In order to make a display of colonial Maryland at the World's Fair, Governor Brown has employed Wm. H. Jackson, a photographer of Denver, Col., to take views of the Statehouse and other points of interest in Annapolis for display in the Maryland building at Chicago. The senate chamber in the Statehouse, in which Washington resigned his commission as commander-in-chief of the continental army, will be taken in a large photograph and a brief description of the room attached. The present State treasury building, in which the colonial council held meetings, will also be in the collection. The executive mansion, St. John's College, scenes from the Naval Academy and some of the colonial buildings in Annapolis will also be included. These photographs are to be heavily mounted and used to decorate the walls of the Maryland building.

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department, on pages 307 and 308.]

No. 2 Improved Tenoner.

One of the latest productions of the Indiana Machine Works, of Fort Wayne, Ind., is an improved tenoner with double

allow the use of extra long belts. The carriage is made in one piece and, although very rigid, works with the greatest ease and comfort to the operator. It is provided with gauge rod and stops by which the work may be gauged. The table is very wide and runs on extra long slides with flat and V ways. The countershaft is attached to machine, and has tight and loose pulleys ten inches diameter by four

An Improved Slab Grinder.

The new style of hog illustrated by the accompanying engraving is an improved one of the kind which has done much to help saw-mill men in the economical disposal of their refuse and preparing hitherto unused waste products for the convenient and profitable use as fuel.

Hogs as made by Mitts & Merrill, of

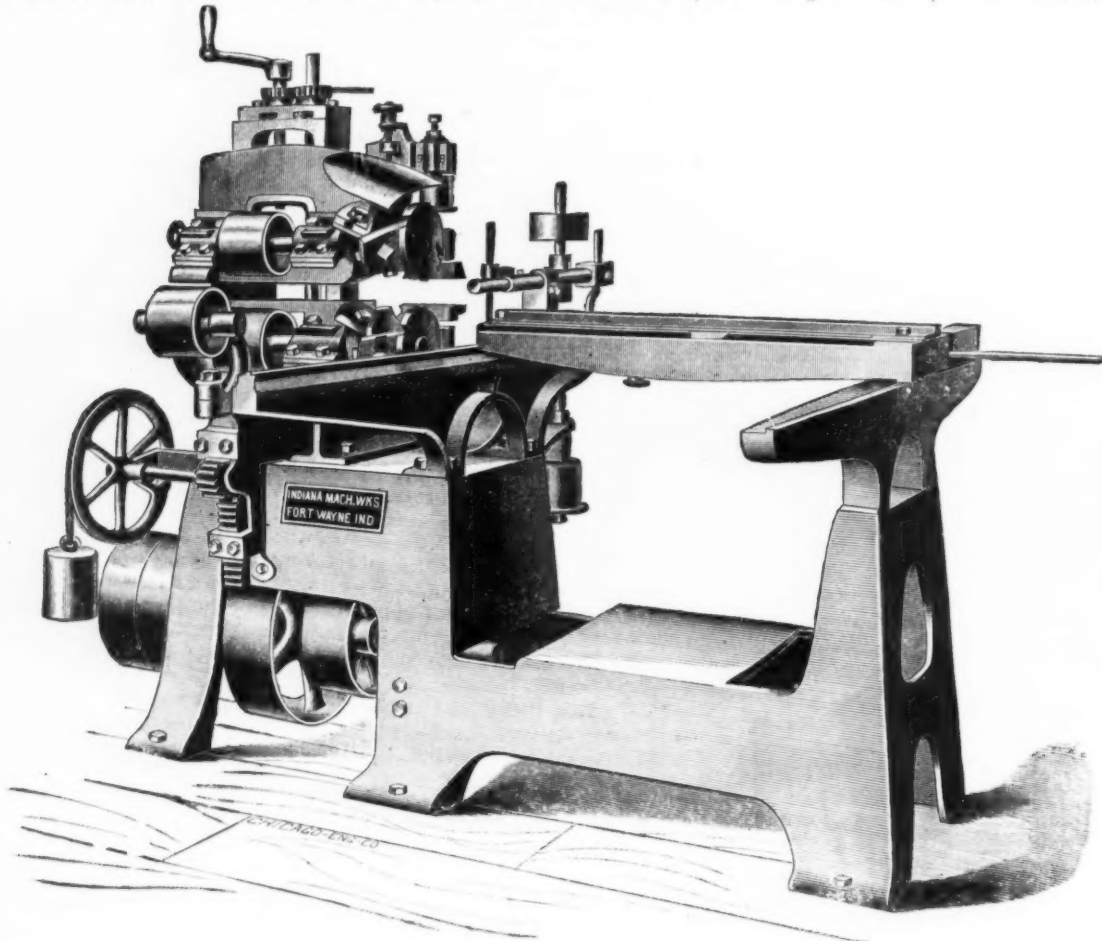
whole machine weighs in the neighborhood of 7,000 pounds. It is usually driven by an 18-inch belt on a 24-inch pulley at the rate of about 800 revolutions per minute, the small hogs requiring much less power.

To those who are acquainted with the machines as formerly manufactured an important improvement will be manifest on examination of the engraving.

The entire covering and upper part of the mouthpiece swings backward on the hinge-bolt shown in the rear of the machine, leaving the wheel exposed so that the adjustment of the knives and the steel throat plate is easily accomplished, and it is only necessary to remove the caps from the journal boxes in order to lift out the wheel and shaft. No part of the framework has to be disturbed.

Several of these large hogs are in use in different parts of the country cutting up slabs into fuel chips, and also oak and chestnut logs and cordwood for extract purposes. In addition to a full line of this style of machine Mitts & Merrill are making still another hog, quite differently constructed, for operating on shingle sawdust, shingle splints, thin edgings such as come from elm hoops, stringy bark and all such other material as is too tough and fibrous to be cut successfully with ordinary machines. It will cut all this into short chips easily handled by the conveyor or by means of a blower through pipes. This latter feature will make the machine of great service in a large number of places where such refuse has heretofore been very hard to dispose of economically.

In this connection the makers claim that the use of blowers in place of chain conveyors is an important improvement in the construction of saw and planing mills. The difficulty heretofore has been to keep out of the blower and pipes the thin edgings and stringy bark which accumulate and clog everything. This trouble is overcome by means of this improved hog, which cuts everything into fine chips, no matter how tough or fibrous it may be. Hogs, blowers and pipes can be placed in a mill and maintained at far less than con-



NO. 2 IMPROVED TENONER.

heads and two copes. This machine has every valuable feature suggested by study and practice, and is designed for sash, door or blind factories, planing mills or job shops. A smaller size (No. 3) is also made for furniture-making.

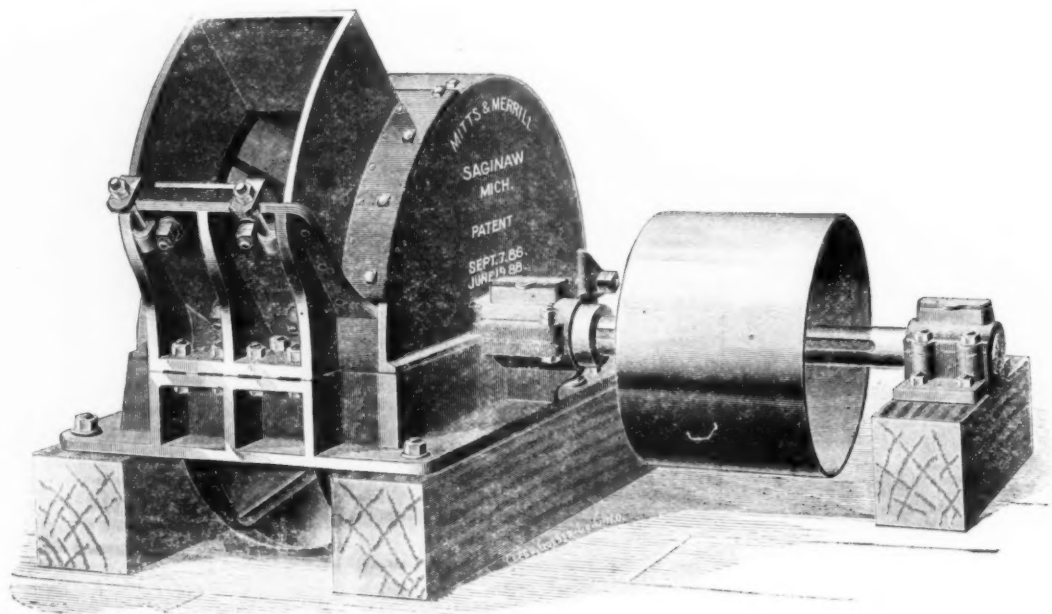
The base of the machine is cast in one massive piece, has a substantial floor support, and is more rigid than if bolted together. As operators use their hips in connection with their hands in pushing carriage across slides, an opening is left in the top of base, so that there is nothing to interfere with his using his side should he see fit to do so.

The arbor housing is fitted to planed surfaces and is abundantly heavy for every purpose. The arbor frames are fitted in dovetail ways with provisions for wear, their bearings being long and far apart. The arbors are of very large diameter and run in extra long boxes. They carry two steel heads each which will cut out a tenon seven inches long, and by a patent adjusting device both heads may be adjusted separately or together and without altering the space between them. The upper head has an overcut movement, so that a tenon may be made longer on one side than on the other. A belt tightener is furnished to take all slack in belt which runs between bearings; thus the wear in the boxes is more evenly divided.

The cope heads are made of gun metal and are accurately balanced. They are fitted to arbor frames, so that when heads are adjusted they go with them. Independent adjustments are furnished for these heads, all of which are easy of access. The cope countershaft is firmly fitted to machine, and placed in such a manner as to

allow the use of extra long belts. The carriage is made in one piece and, although very rigid, works with the greatest ease and comfort to the operator. It is provided with gauge rod and stops by which the work may be gauged. The table is very wide and runs on extra long slides with flat and V ways. The countershaft is attached to machine, and has tight and loose pulleys ten inches diameter by four

allow the use of extra long belts. The carriage is made in one piece and, although very rigid, works with the greatest ease and comfort to the operator. It is provided with gauge rod and stops by which the work may be gauged. The table is very wide and runs on extra long slides with flat and V ways. The countershaft is attached to machine, and has tight and loose pulleys ten inches diameter by four



AN IMPROVED SLAB GRINDER.

East Saginaw, Mich., have of late years become well known and appreciated by saw-mill men in all parts of the United States. The demand for a hog with a larger mouth and a correspondingly greater appetite induced the manufacturers to bring out the machine here illustrated. The mouth is 16x20 inches, and it will quickly chew up into small pieces any stick that can be put into it.

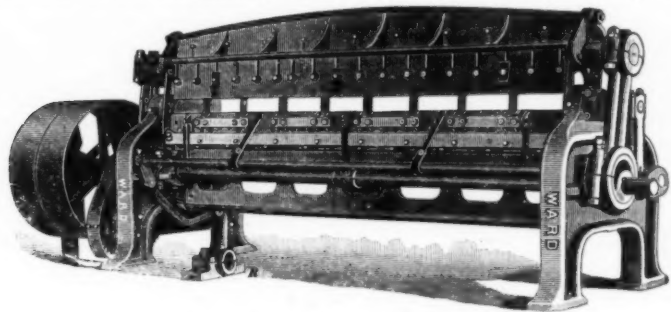
The cutting wheel weighs about 3,500 pounds and has twelve knives, and the

veyors and occupy less space, besides reducing the danger from fire, and consequently the insurance risk. The makers will be pleased to give further particulars regarding these machines.

THE Whitecastle Lumber Co., located in the parish of Iberville, La., has changed the name of their mammoth mill from "Cowboy" to "Cypress Queen." This extensive company have averaged during the current year a cut of 40,000 feet per day,

The Ward Hoop Machinery.

The Ward hoop machinery, built by the Frontier Iron and Brass Works, of Detroit, Mich., has, in the comparatively short



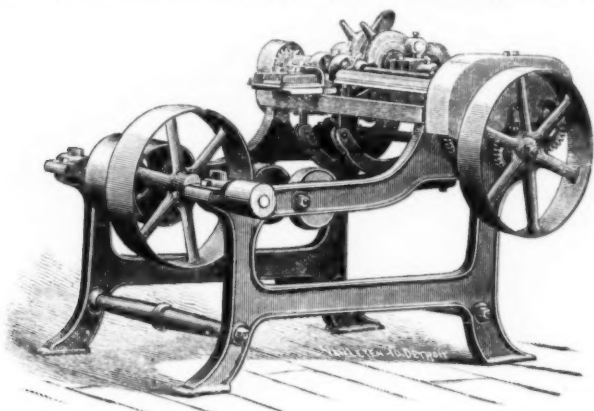
WARD HOOP CUTTER.

time that it has been in the market, won for itself an enviable name for speed and general excellence. The accompanying illustrations showing the hoop cutter, planer and coiler give a good idea of their general construction. In the cutter the knives are

is not wasted in refacing. These knives are eight inches wide with two and a-quarter inches of good wearing steel to work with. The eccentric straps are lined with Babbitt metal, and the hoop gauges

are adjustable. The fact that the plank lies solid and allows the knife to cut on wood beneath it prevents slivering the lower edge, and is a feature readily appreciated.

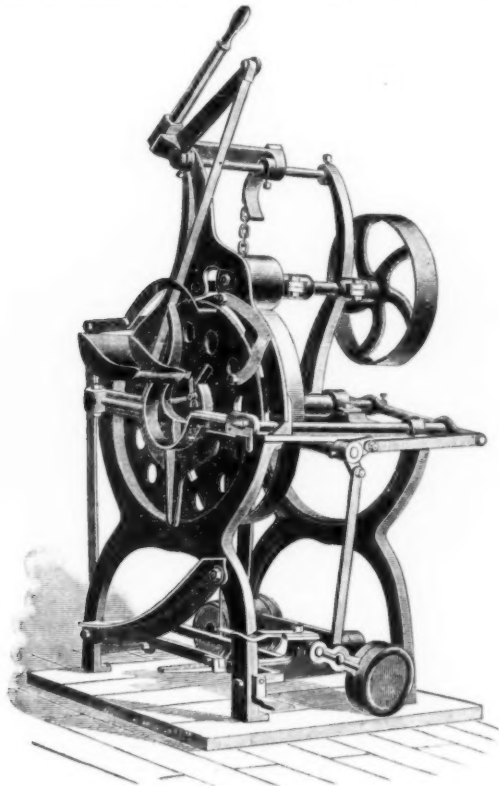
The merits of this cutter are being dem-



WARD HOOP PLANER.

ground on a common 36-inch grindstone and set in place. The plank is then put on a solid horizontal bed and fed straight to the knives, no skilled labor being needed. The knives are so arranged that they may be tilted to give any desired level to the

onstrated every day. It is easy to keep up and cuts so as to make little or no waste of stock; the thinner the hoop is cut the less it is shaken. Besides this, the cutter makes smoother work than a planer can; therefore, the planer, also shown, is used only to



WARD HOOP COILER.

hoop, and, being made in three interchangeable sections, either section can be renewed at one-third the cost of an entire knife. In working, the iron side of the knife is next to the plank, so that the steel

round edges or trim the flat of such hoops as are thick from the springing of the plank. In the cutter a separator or divider drops the hoops alternately in separate piles, so by changing ends each pile is all ready to

pass into the planer. This latter machine has both upper and lower live-feed rolls, and is strongly and accurately made. The two-hoop planers have a capacity of from 16,000 to 20,000 hoops and the single-hoop planer of 10,000 hoops per ten hours.

The hoop coiler now made is a marked improvement over the old one first brought out. These machines coil ten 1/2-inch hoops one and a-quarter to two inches wide and run much easier than the old ones, besides dispensing with the use of the rubber bumper, as the shock of the weight in falling is sustained by a 2-inch plank placed under the machine for this purpose and also for it to rest upon. In locating these coilers it is recommended that they be placed three feet from the boiling-box, and the coiler head directly in front of the part of the boiling-box where the hoops are pulled out. The coiling machine occupies only two feet four inches by two feet six inches floor space.

Southern Lumber Notes.

THE planing and saw mill of B. C. Lambert, of East Florence, S. C., was completely destroyed by fire on the 29th inst. The engine, machinery and building was valued at \$4,000, the contents being insured for \$1,500.

A DEAL of considerable magnitude was closed last week at Mobile, Ala., whereby the Martin-Nichols Lumber Co. disposed of their entire plant, including 6,680 acres of the Rabbit creek lands. The new company was incorporated under the name of the Nichols Lumber Co., with \$40,000 cash capital paid in. A firm of practical mill men from the North have taken \$25,000 of the stock in the new mill. W. H. Martin, who is president of the new company, retains a \$15,000 interest, besides reserving about \$10,000 worth of pine lands and other property from the deal in Clarke county.

THE planing mill, dry-kiln and a large amount of dressed lumber belonging to the Adel Security Co., of Adel, Ga., was consumed by fire on the 1st inst. The total loss is between \$5,000 and \$7,000, with about \$1,700 insurance.

THE steamship Cherokee left Jacksonville, Fla., on the 2d inst. with 250,000 feet of lumber, 5,000 crossies and 4,000 bundles of shingles.

THE Arkadelphia Lumber Co., of Arkadelphia, Ark., report an excellent trade, but quite a shortage in cars. This company have about 5,500,000 feet in their yards, and have extended their logging road five miles during the season, and removed their railroad shops from Delark to Dalesville and erected new office at their mills.

THERE are said to be 3,000,000 feet of cypress timber logs in the Ocklawaha river ready to be towed to Jacksonville and Palatka, Fla.

THE new saw mill building of the Indian Mission at the Allen place near Fort Myers, Fla., was burned on the 29 ult. About 40,000 feet of lumber and a large planing machine were also consumed. The loss is estimated at \$5,000. The mill will be rebuilt as soon as the lumber can be sawed.

THE Ferguson Lumber Co., of Little Rock, Ark., report the car service of the Missouri Pacific Railroad as quite satisfactory. With their extensive stock of lumber on hand they find no difficulty in making prompt shipments.

THE Alexander Lumber Co., of Alexander, W. Va., whose extensive operations place it among the leading operators of the State, are still adding new improvements to their milling plant. They have also extended their work into Tucker county, W. Va., and have four miles of road completed in that county and expect to build twenty more. Their mills are all fully em-

ployed and are turning out over 100,000 feet a day. The West Virginia & Pittsburgh Railroad, which handles its product, has been completed to Camden-on-the-Gauley, and has regular trains running through the entire length of the road.

THE Rapides Lumber Co. is making all arrangements to construct at once a mammoth saw mill on the Kansas City, Watkins & Gulf Railway, eleven miles below Alexandria, La. At a meeting of the mill and railroad officials all matters relating to its construction and general management were discussed, and it was decided to make it one of the most complete milling plants in the South.

MR. WILLIAM M. BURGAN, who has been closely connected with the Peregrine Lumber Co., of Wilmington, N. C., for some time, has purchased that company's interest in Baltimore. The business of this company has been very extensive in the past, and having fallen into the hands of Mr. Burgan, the volume of trade in the future and general conduct of the business will not be diminished.

MESSRS. R. T. WATERS & SON, who suffered by the late fire at Union Dock, have erected a new office on West Falls avenue. They now occupy the Shryock Building at Union Dock, and will shortly move to their new office.

A STIMULATING bit of enterprise is shown by C. D. Cake & Son, of Norfolk, Va., in the rapid way in which they have set to work rebuilding their extensive saw and planing mills. The plant was destroyed by fire on October 25, and the morning following, before the fire was entirely extinguished, the clearing of the ruins and rebuilding commenced. The building, which is 50x112 feet, is now probably finished, as the tinnies were at work on the roof on November 2. In accordance with their progressive ideas the firm will put in new machinery of the latest designs.

THE Jolly Bay Mill, at Jolly Bay, Fla., was burned on the 5th inst., together with 150,000 feet of lumber. The plant was not insured, but Mr. Strickland, the proprietor, will probably rebuild at once on a larger scale.

IT is learned that the Monroe Manufacturing Co., of Lima, Ohio, manufacturer of inside blinds, inside trimmings, bank fixtures and building furniture of all kinds, will remove its factory to Central City, W. Va. A main building, three stories, 100x200 feet, is to be erected for the plant, and 150 hands will be employed.

NELSON KOONTZ, of Union Mills, Md., is preparing to rebuild his saw mill burned some six weeks ago. The new mill will be larger than the old one.

A. CULBERSON is about ready to start operations in his new hoop factory at Anniston, Ala. He expects to add other machinery in the future.

JULIUS LEVIN & Co. may not rebuild their dry-kiln lately burned near Alexandria, La., until next spring, owing to rainy weather about setting in. There were 130,000 feet of lumber destroyed by this fire.

LUMBER MARKET REVIEWS.**Baltimore.**

OFFICE MANUFACTURERS' RECORD, BALTIMORE, NOVEMBER 10.

The movement in lumber circles during the week has been fair, and under favorable weather the volume of trade in nearly all the yards has been fully up to the average for this period of the season. There is a good through business doing, and some large houses report their trade as better than usual. Receipts of Virginia and North Carolina pine have been more liberal, and prices hold very steady. For 4-4 rough boards there is very little demand, but for flooring grades the inquiry is sharp. Some sizes of small joists are also wanted. In white pine there is a good steady de-

mand, and while we hear of few large lots changing hands, the volume of sales has been of a fair average during the week at steady values. Cypress is in very good demand for choice stuff, and all arrivals meet with ready sale if in good order and condition. Common and inferior grades are hard to move at any price. In hardwoods the demand is constant, but not of large volume, and for the various woods for finishing interiors there is a good inquiry. Furniture manufacturers and others are not buying largely of walnut or other woods adapted for their purposes. The shingle trade is not so brisk, the demand having eased off for the present. A good market, however, is reported, and prices hold very firm, with a moderate supply. Considerable improvement is to be noted in the planing-mill industry, the various mills being actively engaged, and report orders plenty at prices somewhat better. Box factories are also doing a fair trade at remunerative figures.

VIRGINIA AND NORTH CAROLINA PINE.		
5-4x10 and 12 No. 2, kiln dried.....	\$17 00/00	17 25
4-4x10 and 12 No. 1, " " " " " "	19 75/00	20 25
4-4 narrow edge, No. 1, kiln dried.....	17 25/00	17 75
4-4 wide edge, " " " " " "	22 50/00	—
6-4x8, 10 and 12, " " " " " "	22 25/00	23 50
4-4 No. 1 edge flooring, air dried.....	15 50/00	16 50
4-4 No. 2 edge flooring, " " " " " "	12 50/00	13 00
4-4 No. 1 12 inch stock.....	17 00/00	17 50
4-4 No. 2 " " " " " "	13 50/00	14 50
4-4 edge box or rough wide.....	8 50/00	9 50
4-4 " " " (ordin' widths).....	8 50/00	9 00
4-4 " " " (narrow).....	8 00/00	8 50
4-4x12 " " " " " "	10 50/00	11 00
3/4 narrow edge.....	7 00/00	7 50
3/4 all widths.....	7 50/00	8 00
3/4 10x16 wide.....	8 00/00	9 00
Small joints, 2 1/2 " 12, 14 and 16 long.....	8 10/00	9 00
Large joints, 3 " 16 long and up.....	9 50/00	10 50
Scantling, 2x3-16.....	9 50/00	10 00
" " 2x4-16, 18 and 20.....	9 50/00	10 00
" " 3x4-16, 18 and 20.....	9 50/00	10 00
" " 6-4x12-16.....	10 00/00	10 50
" " 8-4x12-16.....	10 00/00	10 50
" " 6-4x10-16.....	9 00/00	9 50
" " 5-4x10-16.....	9 00/00	9 50
SOUTHERN PINE.		
Siding and edge boards.....	14 00/00	14 50
Heart face boards.....	22 00/00	23 00
WHITE PINE.		
1st and 2d clear, 4-4.....	48 00/00	52 00
" " 5-4, 6-4 and 8-4.....	48 50/00	52 50
3d clear, 4-4, 5-4, 6-4 and 8-4.....	43 00/00	44 00
Good edge culls.....	14 00/00	15 00
Good stock.....	17 00/00	18 00
CYPRESS.		
4-4x6, 16 feet, clear.....	23 50/00	24 00
4-4x6, 16 feet, fencing.....	12 50/00	13 50
4-4 rough edge.....	9 50/00	10 00
4-4 edge, Nos. 1 and 2.....	18 50/00	21 00
HARDWOODS.		
Walnut.		
5/8, Nos. 1 and 2.....	75 00/00	100 00
4-4, Nos. 1 and 2.....	90 00/00	100 00
5-4, 6-4 and 8-4.....	95 00/00	110 00
Nos. 2 1/2, 3 and 4.....	125 00/00	—
Nowell stuff, clear of heart.....	125 00/00	—
Culls.....	30 00/00	35 00
Oak.		
Cabinet, white and red, plain sawed and good 1 and 2, 8 in. and up, 12 to 16 feet long, 4-4.....	35 00/00	40 00
5-4 to 8-4.....	35 00/00	40 00
Quartered white, 1 and 2 quality, all figured, 6 in. and up wide, 4-4.....	50 00/00	53 00
Culls.....	10 00/00	15 00
Poplar.		
Nos. 1 and 2, 5/8.....	21 50/00	23 50
" " 4-4.....	24 00/00	25 50
Nos. 5/8, 6 and 8-4.....	27 00/00	30 00
In yellow pine cargoes, log run stock.....	12 50/00	16 50
Culls.....	12 50/00	14 50
SHINGLES.		
Cypress, No. 1 hearts, sawed, 6x20.....	7 50/00	7 75
No. 1 saps, sawed, 6x20.....	6 00/00	6 25
No. 1 hearts, shaved, 6x20.....	6 50/00	7 00
No. 1 saps, shaved, 6x20.....	5 25/00	5 50
LATHS.		
White pine.....	2 70/00	2 75
Spruce.....	2 35/00	2 40
Cypress.....	2 15/00	2 20

Norfolk.

[From our own Correspondent.]

NORFOLK, VA., November 9.

The situation at present in lumber at this, one of the most important markets on the Atlantic coast, is of a most encouraging character, and during the past week there has been quite a volume of business transacted. The bright, clear weather prevailing has a tendency to quicken the demand, and affords an excellent opportunity to shippers who have been hard pressed for some time. The shipments both by rail and water have been very large during the month of October, and for the current month the record will probably exceed that in volume. Business in all branches of this industry and all points in Virginia is reported good, and from the reports received the outlook for the future of lumber was never more favorable. The movement

in kiln-dried Virginia and North Carolina yellow pine is very satisfactory, and at the late advance the demand is still of an urgent character, while with prices still comparatively low there is good grounds for expecting a still further stiffening of values on certain dimensions. Receipts of air-dried lumber are moderate, especially of the better grades of flooring, for which there is a good demand. Box grades are firm and command good prices, while edge is in less demand. The quotations range as follows: No. 1 is steady at \$13.00 to \$13.50, No. 2 at \$10.00 to \$10.50 and box \$7.00 to \$7.50. The movement in cypress lumber is better, and as this wood is becoming more popular at all primary lumber centres, there is here a growing demand for desirable lots, and prices continue to improve, especially for choice grades, while common stock is not wanted. In shingles trade is first-class, and with a brisk demand prices continue to hold firm, with the supply not sufficient at the moment. A good report may be chronicled in reference to planing mills, which are all fully employed at present both here and at all outlying points. Prices are in the main somewhat better, and with a good organization among manufacturers the margin of profits would show an improvement. The following list represents the prices current at this date:

Kiln-dried North Carolina pine lumber f. o. b. at this port is quoted as follows:

5-4 rift No. 1.....	\$27 50/00	—
5-4 rift No. 2.....	16 00/00	—
5-4x10 No. 1.....	20 00/00	—
5-4x12 No. 1.....	20 50/00	—
5-4x10 No. 2.....	15 00/00	—
5-4x12 No. 2.....	16 00/00	—
5-4 edge No. 1.....	17 50/00	—
5-4 edge No. 2.....	13 50/00	—
4-4 rift No. 1.....	25 00/00	—
4-4 rift No. 2.....	15 00/00	—
4-4x10 No. 1.....	18 50/00	—
4-4x10 No. 2.....	15 00/00	—
4-4 edge No. 3.....	9 50/00	—
5-4 edge No. 3.....	10 50/00	—
4-4x8, 10 and 12 culls or box.....	9 00/00	10 50
4-4x5-4 edge, cull or box.....	8 50/00	—

VIRGINIA PINE.		
4-4 flooring boards (dry and clear).....	13 25/00	14 50
4-4 flooring boards (rough).....	7 50/00	8 00
SHINGLES.		
No. 1 hearts, split, car lots.....	6 50/00	7 50
No. 2 hearts, split, car lots.....	5 50/00	6 50
No. 1 saps, split, car lots.....	4 25/00	4 75
No. 2 saps, split, car lots.....	4 25/00	4 75
No. 1 sawed hearts, car lots.....	6 50/00	7 00
No. 2 sawed hearts, car lots.....	5 00/00	5 50
WOOD.		
Hard, per cord.....	2 75/00	3 00
Pine, per cord.....	2 75/00	3 00
STAVES.		
Red oak hoghead, prime.....	38 00/00	—
Red oak hoghead, culls.....	22 00/00	—
White oak hoghead, prime.....	50 00/00	—
White oak hoghead, culls.....	28 00/00	30 00
White oak heading, prime.....	50 00/00	—
White oak heading, culls.....	26 00/00	—

Charleston.

[From our own Correspondent.]

CHARLESTON, S. C., November 9.

The lumber market during the week has been fairly active, with a good inquiry, both domestic and foreign. All the features of the market, both at this port and at interior milling points, are of a cheerful character, and the various mills all over the State are generally doing well. Various improvements are in progress in this industry, and everything points to a fair business during the winter. The mills near Georgetown and along the Little Pee Dee and Santee rivers are sawing up to their full capacity, and are actively engaged in the manufacture of cypress shingles. J. E. Bronson, of Sumter, is about to build a large saw and planing mill in connection with his door, sash and blind factory. The following vessels left during the week with full cargoes: Schooner Anna E. Ketchum, for Philadelphia, with 265,000 feet of lumber, and barkentine E. S. Powell, with 488,844 feet of lumber, for New York. The schooner Royal Arch, with 350,000 feet, and Carrie Strong, with 430,000 feet, both cleared for New York. Values continue steady and unchanged, and merchantable lumber is quoted \$14.00 to \$16.00 for city sawed, and \$12.00 to \$14.00 for railroad. Square and round timber \$9.00 to \$13.00 for railroad, and \$8.00 to \$11.00 for raft. Dock timber \$4.50 to \$6.50, and shipping \$8.50 to \$10.50. Shingles are firm at \$5.00

to \$7.00 per thousand. Freights are steady and unchanged.

EXPORTS OF LUMBER FROM CHARLESTON FROM SEPTEMBER 1, 1891, TO NOVEMBER 4, 1892.

Exported to	1891-'92. Feet.	1891-'92. Feet.
New York.....	5,544,312	6,009,192
Boston.....	—	—
Philadelphia.....	1,027,000	1,065,000
Baltimore.....	440,000	534,000
Other United States ports.....	307,000	998,000
Total coastwise.....	7,318,312	8,606,192
Great Britain.....	—	—
Palermo.....	—	—
France.....	—	—
West Indies.....	440,759	—
South America.....	—	368,000
Nova Scotia.....	—	—
Other foreign ports.....	—	—
Total foreign.....	440,759	368,000
Grand total.....	7,759,071	8,974,192

Savannah.

[From our own Correspondent.]

SAVANNAH, GA., November 9.

A very buoyant market is reported during the week in lumber circles, and the situation is becoming more encouraging as the year draws to a close. As previously noted, the improved methods of conducting the lumber business which have lately prevailed throughout the principal milling sections of the State have done much to elevate the general features of this industry. The latest advices from all sections of the State show that business everywhere is of a better volume, and prices throughout are on a more uniform scale. All the mills of any note have plenty of orders and are running up to their full capacity, and some are behind in their orders, having plenty of work for the next sixty days. There is a good demand from Northern ports, and from the West Indies and South America several orders have been received during the week. The total shipments of lumber for the week aggregated 1,260,000 feet and 165,250 shingles. The demand for railroad ties is increasing, and in this branch of the lumber industry the volume of business is growing rapidly every year. Georgia ties are in better demand than others, and especially adapted for all roads of great traffic. The Pennsylvania, Central of New York, Lackawanna, Reading and other trunk lines are at present purchasing largely. Among our exporters of cross-ties Mr. Elam Hurd is perhaps the largest. Exclusive of the amount for local consumption, it is expected that the Northern shipments this year will be over a quarter of a million. In the list of values easy sizes are quoted \$11.50 to \$13.00, ordinary \$12.00 to \$16.50, difficult \$14.00 to \$25.00, flooring \$14.50 to \$22.00 and shipstuffs \$15.50 to \$25.00. In freights the market is dull and nominal for sailers, and rates from this and nearby ports of Georgia are nominal at \$4.25 to \$5.00 for a range including Baltimore and Portland, Me. Steamers to New York are held at \$7.00, to Philadelphia and Boston \$8.00 and Baltimore \$6.50 per thousand feet.

Brunswick.

[From our own Correspondent.]

BRUNSWICK, GA., November 7.

The transactions during the past month in lumber and timber have been larger in volume than usual, and the aggregate exports from this port for October have been quite a surprise to many merchants. A greater number of clearances are reported, while cargoes were larger and valuations higher. The total shipments from Brunswick were valued at \$900,129.16, divided as follows: Cotton and phosphate, \$768,508; naval stores, \$78,954, and lumber, \$40,157.16, besides \$5,000 worth of general merchandise. The demand for lumber shows a large increase, and the outlook for the future of the industry very encouraging. Every year the foreign demand becomes more general in its character, and transactions for the past month are divided

between the following countries: France, \$7,062; Ireland, \$4,023; Rio Janeiro, \$14,295; Spain, \$4,626; Porto Rico, \$3,538; Holland, \$4,075, and Jamaica, \$2,538.16. During the past week there has been a large volume of trade in lumber and timber, and the arrivals are large, while a number of vessels are on their way chartered to load at this port. Among the departures this week were the schooner Allen Eells, with lumber, for New York. The schooner Cora M. arrived on the 3d inst. from New York and will finish loading lumber for the West Indies. British bark Catherine, loaded by the Hilton & Dodge Lumber Co., was towed to sea on the 4th inst. and sailed for Rio Janeiro.

Mobile.

[From our own Correspondent.]

MOBILE, ALA., November 9.

In volume the business of the past week in lumber and timber has not been as large as usual, and there is no urgent demand from Europe at present for timber. There were no shipments reported up to the 5th inst., and prices remain quite steady under the moderate inquiry at the moment. Sales have been made at fourteen and fourteen and a half cents per cubic foot. Sawed timber is still quoted at eleven and twelve cents per cubic foot. In lumber there is a good demand, and prices are firm under inquiries from Mexico, Central America and the West Indies. A large cargo is to be shipped to South America this week consisting of from seven to eight hundred thousand feet of lumber, mostly strips and scantlings. This cargo is said to be placed at \$9.50 per thousand. There is a good inquiry for cypress lumber, and all the mills in this section are actively engaged in its manufacture. Large orders for cypress timber is coming from the Louisville & Nashville Railroad to rebuild their bridges and culverts between this city, and New Orleans. Perhaps one of the most active departments in the lumber industry is the manufacture of shingles, and shipments are now very large, as the demand is brisk. Inquiries from Hayti have resulted in a shipment of 50,000 shingles as an experiment, being the first sawed lot to go to that island. The total shipments of lumber during the week were 784,825 feet, and since September 1st 9,196,957 feet, against 7,293,577 for the corresponding period in 1891-'92. In local circles there is a very fine business doing in nearly all the yards, and orders are plenty, dealers finding it hard in some cases to satisfy their customers. There is also an excellent business reported by the sash, door and blind factories, but prices realized are not altogether satisfactory. Reports from nearly all parts of the State represent lumber matters on the mend, and from the many plants in the course of erection and betterments going on, such would seem to be the case. The St. Elmo Lumber Co., of St. Elmo, Ala., has readjusted its financial affairs and started up its mill. One of its orders calls for 1,000,000 feet of lumber. The Peters Lumber Co.'s two mills at Alco, Ala., cut 3,184,500 feet of lumber during September. The Richmond Cedar Works, of Greenville, Ala., has reorganized as the Gulf Red Cedar Co., with W. H. Parrish as president and manager. Lumber and timber freights from Mobile continue dull and nominal, with a fair offering of handy sized vessels. To the West Indies rates are quoted \$6.00 to \$7.00 per thousand; coastwise \$6.00 to \$6.50; Rio Janeiro \$18.00 nominal. Timber to the United Kingdom is quoted at 28s. to 30s. per load for hewn, and sawn per standard is held at £4 10s. to £4 15s.

Bagdad.

BAGDAD, FLA., November 2.

Everything in this section connected with the lumber and timber interests is

moving along very satisfactorily, and, like all other lumber localities in the State, there is a fair activity present. The Simpson Company Island mill was shut down a few days ago to put in a new boiler of the latest improved steam-feed pack and pinion pattern. The cylinders are 14x16 inches. This mill has attached to its engine a Nordbury automatic governor, which cuts off steam at quarter stroke. There are some extensive improvements to the gang mill at this point in progress which will soon be completed. The Tiller-Stowell Co., of Milwaukee, Wis., are furnishing the machinery, which is of the latest and most approved pattern. Shipments of lumber are now very heavy, the regular season for shipping having commenced. Nearly all the saw mills in West Florida are fully employed, and it is expected the season's cut will be very large.

Whitecastle.

WHITECASTLE, LA., November 5.

This thriving town, about nine miles below Plaquemine, is in the heart of the lumber section of Louisiana and is at present one of the most flourishing in the State. The cypress industry is to be seen here in its highest stage of development, and at the moment business is active in every branch of the lumber industry. If we had a sufficient car service our business would be largely increased, but at present there is no immediate remedy. The Whitecastle Lumber & Shingle Co. is the life of this place, and has a capital stock of \$300,000, employing about 400 men. This company has made large investments since its formation, and is rich in timber lands, having easily a twenty years' supply. It has its own water works and electric lights, two dry-kilns—one for lumber with six furnaces and one for shingles with three furnaces. The company owns six miles of railroad and two fine locomotives with the requisite number of logging cars. The officers of the company are: William Cameron, of Texas, president; G. W. Bowie, vice-president; W. B. Brazelton, secretary and treasurer; and S. P. Boster, general manager. T. J. Kearney & Co., extensive saw mill men, are about to put in operation a saw and shingle mill to cut 5,000 feet of lumber and 80,000 shingles a day, with J. Dibleux as manager. The growth of this enterprising town is somewhat remarkable, and desirable building lots are held at outside figures. A lot 100 feet square sold a day or two ago for \$1,100 and will be put in proper shape and buildings erected thereon.

Memphis.

[From our own Correspondent.]

MEMPHIS, TENN., November 9.

Business continues to hold its own and to improve at least a little, both in the local and shipping branches of the trade here. The beautiful weather, especially adapted to building, has tempted numbers of young people to commence homes, hoping to get them ready for the winter. The tendency is toward hardwood for interior finish both in residence and in business houses.

The shipping trade is very good and the prices are fairly remunerative. The foreign export trade is just now a little dull, the market seeming to be somewhat overstocked. The associate trades, boxes, baskets, cooperage and woodworking generally, are all doing as well as they could ask, running full time or more and at good prices.

The mill-supply, belting and general machinery men are all doing well. Mr. Gladding, the Southern manager for Atkins & Co. and in charge of their branch house here, says that their sales for October were better than during any previous month of the ten years they have been doing business here, with September a first-class second, and that the collections are fully as good as the sales; that the business com-

menced to improve in May, and each month did better than the preceding one, until October was the largest of all. He says that the demand from the North and West, where they have money, has been very large, and has mostly come to the mills of the Mississippi valley. The weather has been so dry that the timber roads have been in splendid condition for getting out lumber. They have been able to fill their orders. Nearly all the lumber cut by the mills of the valley is sold for shipment, and our heaviest dealers all say that collections have been exceptionally good and prompt all through the fall. Mr. Gladding says that the demand has been largely for such goods as they make—cross-cut and circular saws and general mill supplies. They have sold a tremendous amount of belting.

He gives me the following as from their books since my last letter: He has just closed a contract with the Magnolia Chair Co., a new concern here, for \$2,000 worth of machinery. G. W. Harden, of Strayhorn, Miss., whose mill was recently burned, is rebuilding. E. R. Hart has just put the machinery in his new mill at Walls, Miss.; capacity 30,000 feet a day, oak and ash. The White River Stave Co., at Clarendon, Ark., has opened its new plant at Madison, Ark., with contracts for over 1,000,000 white oak staves. De Land & Co., of Black Rock, Ark., are adding new machinery to their heading factory. The Black River Lumber Co., at Black Rock, Ark., has just purchased a double-block shingle machine and will make cypress shingles. The Bard Shingle Co., at Bard, Ark., are putting in new machinery. C. H. Ladue, one of the best-known lumber managers of the valley, is to be the manager. He was formerly manager for the Adersin Lumber Co., at Kedron, Ark. G. R. Minnick & Co. are now putting in the belting and completing the machinery for their big mill at Obion, Tenn., where they are preparing to slaughter the last tract of poplar in West Tennessee, having bought what is known as the "Patterson poplar tract," one of the few tracts that had been shrewdly held for a big price. It is a magnificent body of timber. The Southern Spoke Co. is adding to the size and capacity of its plant. The Cochran Lumber Co. here is refitting its mill and adding new machinery. Powell & Scott, of Crawfordsville, Ark., are refitting their saw mill.

The Highland Manufacturing Co., out on the line of the Raleigh Electric Road, received the first four carloads of machinery from Boston, and will be ready to commence work as soon as this machinery is placed in position. The railway is building a large tenement flat for its employees. It is also building now a spur track from a point some five miles out of the city to connect with the track of the Tennessee Midland Road about the same distance out; this will be an important link in the belt line of road around the city for the purpose of furnishing sites for shops and factories.

Prices remain unchanged as follows:

BLACK WALNUT.	
1st and 2d, 1, 1½ and 2-inch.....	\$65 00 70 00
Common.....	35 00 40 00
Counter tops.....	90 00 110 00
ASH.	
1st and 2d clear, 1 to 4-inch.....	24 00 30 00
Common.....	12 00 14 00
CYPRESS.	
1-inch, 1st and 2d clear.....	22 00 24 00
1½, 1½ and 2-inch.....	24 00 26 00
Fencing 1x6, 16 feet.....	15 00 16 00
POPLAR.	
1-inch, 1st and 2d clear.....	24 00 25 00
1½ and 2-inch, 1st and 2d clear.....	26 00 28 00
Common boards.....	14 00 16 00
Dressed, 1, 1½ & 2-in., 1st & 2d clear.....	28 00 30 00
Common dressed, 1-inch.....	16 00 17 50
Squares.....	22 50 26 00
COTTONWOOD.	
1 to 3-inch mill run, culls out.....	9 00 12 00
Squares.....	12 50 16 00
RED GUM.	
1st and 2d.....	16 00 20 00
Common and culls.....	8 00 10 00
OAK.	
1 to 4-inch, 1st and 2d.....	24 00 26 00
Common, 1 and 2-inch.....	13 00 15 00
Quarter oak, 1-inch, 1st and 2d.....	30 00 32 00
Quarter oak, 1½-inch and up.....	34 00 36 00
White \$1 higher.	

YELLOW PINE.	
1st and 2d, 1½ and 2-inch.....	18 00 20 00
Dressed.....	25 00 30 00
Flooring, 3 and 6 d and m.....	17 50 20 00
Flooring, 3 and 4 d and m.....	17 50 20 00
2d flooring.....	15 00 17 50
Heart step lumber.....	27 50 00
Ceiling, 1st and 2d, 1½, 1½ and 1½.....	17 50 20 00
Ceiling, 1st and 2d, 1½ and 1½.....	16 00 00
Common f. o. b. Memphis.....	12 50 00
TIMBER (LOGS).	
Poplar.....	6 00 10 00
Cypress.....	6 00 9 00
Cottonwood.....	3 00 4 00
Gum.....	3 00 4 50
Oak.....	6 00 12 00
Ash.....	8 00 13 00
Black walnut.....	15 00 30 00
SHINGLES.	
No. 1 heart cypress, 16-inch.....	3 00 00
No. 1 sap, 16-inch.....	2 25 00
LATH.	
Poplar.....	2 00 2 75
Cypress.....	00 2 50
Pine.....	00 2 00

Texarkana.

TEXARKANA, TEXAS, November 4.

Our lumber exchange during the past week has been the recipient of visits from some of the leading millmen of the State, and the general opinion of most experts in this industry is that prospects for the future of trade are very encouraging. This city is among the foremost in the State in point of enterprise and energy, and the capital represented on the floor of our lumber exchange is by no means trifling in volume. At present everything in the lumber market presents a lively aspect, and orders are reported more numerous by all the leading firms. Prices continue very steady under the late advance, and the demand continues without interruption on that account. A very important item in the general market is the readiness with which collections are made, and many are looking for a permanent improvement on that account. The numerous milling plants in course of erection in this section of the State and the many additions to those in operation show that the lumber industry is forging ahead at an unprecedented speed. The mills at this and other points are all running at their full capacity, and to a stranger the scene of activity is somewhat startling. The Gate City mill, Bowie, Kizer and others report business as good, but shortage of cars here is the only drawback at present. Lumber reports from across the border in Arkansas are also very encouraging, and millmen are unanimous in their opinion that a bright future is in store for the lumbermen of that State. Orders are plenty, but prices keep down, while stocks are lighter in some sections than they have been for some months past.

Beaumont.

BEAUMONT, TEXAS, November 5.

The lumber trade during the week at this and other points in the district has rather taken a back seat and politics has been the principal topic discussed in lumber circles. Trade in consequence has been dull in lumber, and until the presidential contest is over the market will not be any better. The Beaumont *Journal*, in its review of the lumber market, says: "Lumbermen, especially those in the Southeast, are fighting the present administration with all the power they can command, because they believe—know, in fact—that its policy has been detrimental to their interests." However, under these present conditions the regular trade is in progress, and although not as active as could be desired, we are in hopes that the expected change, which will certainly take place on Tuesday, will result in better conditions for the lumber interests of Texas. The mills here and at all points in the milling section are running on full time and turning out the numerous orders on hand with the utmost dispatch. The demand from the State is light, and comes largely from the Northwest and Mexico. All the mills at this point are in fair shape, and the record of the year is a very respectable one. One instance of enterprise and success is the case of the Reliance Lumber Co.,

which is at present closed down for a brief period for improvements. The mill has been running regularly, and at the close of the year, October 1, has shown a cut of nearly 24,000,000 feet, and this with a single circular saw. The stockholders of the Reliance will meet on the 22d inst., when the annual report will be submitted. The features of the lumber business at Orange, Texas, and Westlake and Lake Charles, La., are encouraging, and mills are all reported full of business. The shipments of lumber from Beaumont and Sabine and East Texas points during October were 1,540 cars, a falling off from the previous month's shipments of 313 cars.

British Timber Trade.

The London *Timber Trades Journal* of the 29th October, in its review of the market, says: "The market is rallying somewhat, but the improvement is yet confined to the better class of goods. The lateness of the season is influencing freights, and this probably is not without its effect on spot goods. There is no special demand for building wood, owing to the still unsettled state of the labor market, but the dock deliveries indicate a considerable amount of business doing. * * * At Messrs. Churchill & Sim's sales this week a large quantity of pine and spruce was sold, and the prices were considered very good for the class of stuff submitted. The anticipations of an early winter are hurrying on charters. Shipowners are demanding much higher rates, and offers are being refused for the upper Gulf ports."

The same journal, in its comments upon Southern pine timber and its present and future standing among the markets of Europe, says: "There is plenty of evidence in the greatly increased consumption in the United States and on the Continent that pitch pine timber will eventually drive the Prussian and Baltic fir out of the market. The dimensions are all in favor of the American timber, and both in hewn and sawn descriptions the price continues to be on its side. It is still unexplained to our satisfaction how such useful timber can be felled, sawn, floated and shipped for an average price of £1 per cubic load. * * * There can be no doubt that the forests of the whole of the Southern States of America are practically inexhaustible, and the immense facilities for maintaining an undiminished supply which the great rivers and lakes of the country afford will always enable them to ship cheaply to this country. * * * Possibly before another decade sets in there will be a great trade done in flooring, panelling and other fitting and finishing work from the pitch pine ports direct with this country, instead of coming through New York, as they do now, in dribbles, and possibly at a price that will compete with the Baltic ports."

THE American steamship Brixham has left Jacksonville, Fla., for Baltimore with a cargo of oranges. The steamer is a pioneer vessel of the Baltimore, Charleston & Florida Steamship Co., organized by Gray, Irelan & Co., shipping agents of Baltimore, and John G. Christopher, of Jacksonville, Fla. The line has been started as an experiment to carry Florida fruit direct to Baltimore, and if it is found to pay more vessels will be put on. On the outward trip it will stop at Charleston, S. C. The vessel is expected to arrive in Baltimore on the 11th inst.

IN accordance with a resolution passed by the National Nicaragua Canal Convention, held in St. Louis on June 2, George L. Converse, chairman of the executive committee, has issued a call upon the delegates of the convention to reassemble in New Orleans on November 30 to further consider the question of the immediate construction of the canal under the protection and control of the United States.

IRON MARKETS.

Philadelphia.

[From our own Correspondent.]

PHILADELPHIA, November 9.

The market for pig iron is gaining strength slowly but steadily, and each week shows a material improvement in the conditions of the trade. The volume of business is increasing, and buyers are purchasing more freely, even at the higher prices asked by the leading producers. All the old lots of material that accumulated during the summer and early fall have been taken up, so that this class of business does not now affect the tendency towards higher prices. With the furnacemen and brokers insisting on the outside quotation for all iron of well-known character both for present and future deliveries, and in some instances holding out for twenty-five cents advance on these prices, consumers are compelled to pay the prices asked or substitute other brands. Southern pig iron, especially mill grades, are being pushed in territory where it can compete with the Northern iron in the matter of freights, but producers in the South are just as firm in regard to prices as those in this section. Both buyers and sellers are, however, cautious in anticipating the market too much, although the urgency of consumers for iron for immediate wants compels them to accept the situation in its present aspects. Notwithstanding the fact that the furnaces are getting rid of their accumulated stocks of pig iron and the current output is entering into consumption as soon as made, conditions favoring still higher prices, there seems to be little likelihood of any change taking place in this respect in the near future. A further increase in quotations would tend to encourage an expansion of the supply to a point beyond the ability of the demand to absorb. At the present time the market is well balanced and prices are firm at the quotations given below for Philadelphia or its equivalent. The usual concessions are allowed for points 100 miles west and south of here.

Standard Pa. No. 1 X.....	\$15 0000	15 75
" No. 2 X.....	14 0000	14 75
" Forge.....	13 0000	13 50
Southern coke No. 1 foundry.....	14 7500	15 00
" No. 2.....	13 7500	14 25
" gray forge.....	13 0000	13 50

Wheeling.

[From our own Correspondent.]

WHEELING, W. VA., November 9.

Southern irons of all qualities are suffering in the Wheeling market on account of the Ohio river being below a navigable stage. Quite a lot of mill iron that was sold last summer to Wheeling mills on the basis of river transportation has been refused on account of the railroads charging so much in excess of the river rates of freight. This has had a very beneficial influence on valley mill iron, and as a consequence of Wheeling mills several furnaces are well sold out. Prices, however, remain low and the market weak as compared with the conditions that prevailed two months ago.

Foundry irons enjoy the usual demand, and business is in better condition. Southern furnaces are unable to put iron in by rail at satisfactory rates however, and the valley furnaces are getting most of the trade.

Although the rains of the past two weeks have been very light, their effect upon the river is beginning to be noticed, and it will not be long probably until this market will be well supplied with Southern product.

Although there has been considerable flurry in soft steel, it has been caused more by speculative buying than by actual consumption, and affairs are not in that steady, well-balanced condition that has prevailed for some time. From time to time there have been advances and depressions in the prices of soft steel, but none of them have

reached back as far as the Bessemer pig iron market. Bessemer pig continues to suffer from its old weakness, and until there is some decided change nothing very good can be expected.

Orders for Southern irons that have been placed within the last two weeks and made contingent upon a navigable stage of the Ohio have been accepted at prices that were very satisfactory and within a fraction of the prices secured for Northern iron. The transactions for the past two weeks in the Wheeling market aggregate nearly 40,000 tons, and are heavier than for any previous two weeks of the year. Considerable iron has been sold for delivery during the early months of 1893, and the furnacemen feel assured of good business for some time yet. Prices for the week are quoted about as follows:

No. 1 Northern mill iron.....	\$12 4000	12 60
Good tough Southern mill iron.....	12 3500	12 50
No. 1 foundry.....	14 5000	15 00
No. 2.....	13 7500	14 00
No. 3.....	13 2500	13 50
Bessemer.....	13 7500	14 00

Chicago.

CHICAGO, November 5.

The Chicago market continues active, though the volume of business closed during the past week has been less than the ratio during the preceding month. The time is approaching when consumers are looking forward to the taking of yearly inventories, and consequently are postponing the purchase of further stock. Inquiries are still active and are divided between large and small consumers. Prices remain unchanged, and there is no decrease in firmness of position maintained by leading manufacturers. Here and there single stack furnaces are short of orders and are offering figures below current quotations, but the amount thus offered is comparatively small. Consumption is going forward at a heavy rate and the outlook is healthy in all particulars.

No change has occurred on Lake Superior charcoals; these are holding their own. Several furnaces are refusing additional contracts, as their entire output this year will be taken by orders already booked.

We quote for cash f. o. b. Chicago:

Southern coke No. 2 foundry.....	\$13 5000	14 00
" No. 2 soft.....	13 2500	13 75

ROGERS, BROWN & MERWIN.

Cincinnati.

CINCINNATI, November 5.

The iron market continues to present a healthy appearance in all phases. The heavy buying that has previously been confined to large consumers seems now to be pretty generally extended through the trade. Smaller buyers who doubted that there was any foundation for an advance have become convinced that it was genuine and well founded, and are covering pretty fully for future requirements. There seems to be no hesitation in taking hold at current prices for Southern foundry irons, which are based on \$9.00 at Birmingham for gray forge, \$9.50 for No. 2 soft, \$9.75 to \$10.00 for No. 2 foundry, \$10.00 for No. 1 soft and \$11.00 for No. 1 foundry. Some very close buyers who have been arranging for supplies during the week past have endeavored to break these prices. One lot of No. 2 soft was bought at \$9.25 Birmingham, but an effort to duplicate the order was unsuccessful. Offers have been floating around for blocks of gray forge a shade under the limit, but at last accounts the iron had not been found.

Furnacemen call attention to the fact that the established advance is comparatively small, and that the highest ruling prices are still the lowest ever known for pig iron in the history of this country, excepting alone the depths reached during past few months. They are still seventy-five cents per ton below prices of corresponding grades at Middlesborough, England, and over \$1.00 per ton lower than ruling rates a year ago, when prices were

thought to be abnormally low and unprofitable to furnaces. There is still a good deal of ground to be traversed to get back to what may be regarded as the normal average for five years past. There seems to be no disposition on part of the furnaces to push the advance, as all recognize that too high prices would stimulate production and perhaps again overstock the market.

In Northern irons there is greater firmness and more activity, but very little in the way of actual improvement of prices. This is due partly to the fact that Northern irons did not decline as low relatively as Southern brands, and do not as a rule feel the effect of improving influences as promptly as the South. There is some talk of increase of production in the Mahoning and Shenango valleys, but so far the actual enlargement is slight. Car-wheel irons have been sold rather freely at unchanged prices. Old material also rules about the same.

We quote for cash f. o. b. cars Cincinnati:

Southern coke No. 1 foundry.....	\$13 7500	14 00
" No. 2 foundry and charcoal No. 1.....	12 5000	12 75
Hanging Rock coke No. 1.....	15 5000	16 00
" charcoal No. 1.....	18 5000	19 50
Tennessee charcoal No. 1.....	16 0000	16 50
Jackson county stone coal No. 1.....	16 0000	16 50
Southern coke, gray forge.....	11 5000	11 75
" mottled.....	11 0000	11 25
Standard Alabama car wheel.....	18 0000	19 00
Tennessee car wheel.....	17 0000	17 50
Lake Superior car wheel.....	17 5000	18 00

ROGERS, BROWN & CO.

St. Louis.

ST. LOUIS, November 5.

The business of the past week has been but fairly active. The present advanced prices of Southern coke iron is being maintained by all the Southern furnaces.

The Ohio furnaces have not yet advanced prices of their irons to correspond with Southern prices, but we are looking for them to soon join the procession.

The demand for standard car-wheel iron is improving. Aetna charcoal softener, (a new Southern iron) is meeting with great success, and orders are coming in about as fast as the furnace can produce the iron; in fact, faster than they can obtain cars to ship it.

We quote for cash f. o. b. cars St. Louis:

Southern coke No. 1.....	\$14 5000	14 75
" No. 2.....	12 2500	13 50
" No. 3.....	12 7500	13 00
" gray forge.....	12 2500	12 50
" charcoal No. 1.....	16 0000	16 50
Missouri " No. 1.....	14 5000	15 00
Ohio softeners.....	16 5000	17 00
Lake Superior car wheel.....	18 0000	18 25
Southern ".....	18 5000	18 75
Frick's Connellsville foundry coke.....	—	5 65

ROGERS, BROWN & MEACHAM.

Louisville.

LOUISVILLE, November 5.

The market continues steady, with fair buying of irons. Prices are held firmly by the leading companies, and there is no disposition shown to shade among them. Recent contracts, where orders were taken by two of the smaller companies, a slight shading of price was made, but the amount that they were willing to make concession on was so small that it had no effect. Selling for six months of the coming year continues, and buyers feel disposed to purchase for these deliveries. Among the rolling mills business continues very active, and the demand for finished product is strong, so that it is hard to keep up with the urgent calls for material on the part of car companies and railroads. One thing is evident, that there will be no falling off in price, and the unusual spectacle of business continuing good in the face of a presidential election makes it evident that whichever way the election goes there will be but little disturbance of trade.

We quote for cash f. o. b. cars Louisville:

Southern coke No. 1 foundry.....	\$13 5000	14 00
" No. 2.....	12 2500	12 50
" No. 3.....	11 7500	12 00
" gray forge.....	11 2500	11 75
" charcoal No. 1 foundry.....	15 0000	16 00
" car wheel.....	18 0000	19 00

GEO. H. HULL & CO.

The Alleghany Iron Co., of Iron Gate, Va., put its furnace in blast again on the 10th instant.

Atlanta's Coming Carnival.

By Col. I. W. Avery.

Keenly alive to the necessities of the South, Atlanta, plucky ever, planned to stir things and tide over the dullness with a taking carnival.

Her men leaped to the idea, put up money in plenty, and are working it up with their usual energy.

The carnival takes place on the 15th, 16th, 17th, 18th and 19th of November, from Tuesday to Saturday, inclusive. The railroads have given one cent a mile rates. A racy and varied bill of fare has been made, and five days of roystering jollity may be expected.

FIRST DAY—TUESDAY, NOVEMBER 15.

The foreign Sultan, with twelve pashas and suites, arrives on the Richmond & Danville Railroad at 2 P. M., and a great line of march of police, military and organizations escort them to the capitol, where the governor and mayor with pithy speeches present the keys of the city and escort them to Piedmont Park, where a tournament will be held and a balloon ascension made, the day ending with a night of dazzling fireworks in the city.

SECOND DAY—WEDNESDAY.

The second day is full of blaze and bustle. English balloonists seek the air. Races draw the sportive. At 2 P. M. the bicycle races from Fairburn to Atlanta can be witnessed.

At 5 P. M. an immense caravan of trades' displays, illuminated brilliantly in every glittering fashion, marches into the dark night and through the dark streets amid music and glimmer, and in all the glory of material substance for once playing the harlequin, and in fantastic phosphorescence emphasizing the solidity of business and the progress of arts.

To add to the glamour the Atlantic Bicycle Club will glide with lanterns, while a great ball will end the day in the huge main building at Piedmont Park.

THIRD DAY—THURSDAY.

The third is the children's day, free to every child. This is to be the festival of the small fry—a sweet pandemonium of babies, with ribbons fluttering. The Atlanta Turners' Society will do its variegated do in the afternoon, with every species of gymnastics and sports for the edification of the little ones.

FOURTH DAY—FRIDAY.

The fourth day is to be the royal day, ending with the grand Mardi Gras feature.

Beginning with a balloon contest between the boys of the Technological Institute and others, there will be horse races in the afternoon, to be spiritedly intermingled with two bicycle dashes for \$100, one a mile and the other a half-mile heat.

This gala day concludes with the grand carnival of floats in all their picturesque significance, winding up with the immense carnival ball in the main building of the exposition grounds.

FIFTH DAY—SATURDAY.

This fifth day winds up the carnival. There will be races and the balloon, and in the afternoon an interstate foot-ball contest between the winners of the day before and the Vanderbilt team.

During the whole carnival the most attractive entertainment at last, given three times a day, and pervading the entire display, will be Myrtle Peeks's famous circus of horses, nineteen in number, with every kind of riding and marvels of horses—the \$10,000 trick horse Boston, the Silver Tail pacer, the running steed You Bet and the fiery double team racers.

This is regarded the most attractive feature of the carnival.

This carnival is a purely public-spirited affair, meant to amuse and draw folks and let the city be known, and not to make money, and if successful it will be made a permanent institution.

CONSTRUCTION DEPARTMENT.

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

* Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

✉ In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ALABAMA.

Anniston—Hoop Factory.—A. Culberson, lately reported as to start a hoop factory, expects to add other machinery.

Anniston—Rolling Mill.—The United States Car Co. has broken ground for a new rolling mill.

Attalla—Publishing.—The Sentinel Publishing Co. will publish a daily paper.

Bessemer—Iron Furnaces.—It is stated that two iron furnaces will be removed to Bessemer.

Bridgeport—Steam Laundry.—John Hurst and others will establish a steam laundry.

Dothen—Cotton Mill.—Phillips & Folkes report that a stock company will probably be organized soon to build the cotton mill mentioned in last issue.

Epes Station—Cotton Gin.—J. J. Hillman will rebuild his cotton gin and grist mill reported in this issue as burned.*

Gadsden—Tannery.—A Mr. Montgomery, of Talladega, has been prospecting with a view to locating a tannery in Gadsden.

Huntsville—Steam Laundry.—Ed. T. Bailes has put new machinery in his steam laundry.

Huntsville—Flour Mill, Creamery, etc.—The Farmers' Central Club of Madison county is considering the erection of a flour mill, canning factory and creamery.

Huntsville—Harness Factory.—Louisville (Ky.) parties will establish a harness and saddle factory in Huntsville.

Huntsville—Cotton Mill.—The Dallas Manufacturing Co. meets on November 16 to consider the increasing of the capital stock.

Jacksonville—Variety Works.—John H. Forney, referred to in last issue, and others will establish variety works.

Lacon—Brick and Tile Works.—The Standard Brick and Tile Works have been enlarged.

Mobile—Oil Mill.—Frederick Heakes, manager of the Gulf City Oil Mills, previously reported as to be rebuilt, announces that work will commence at once. A site has been selected near Price's, and the new works will cost about \$100,000.

Nichola—Saw Mill.—The Nichola Lumber Co., referred to in last issue, will improve its saw mill and build dry-kilns.

Talladega—Tannery.—A. N. Montgomery and R. W. Hawley will erect a tannery to have a monthly capacity of 15,000 pounds. Mr. Hawley will operate the plant.*

ARKANSAS.

Eureka Springs—Electric-light Plant.—The erection of an electric-light plant is being discussed. The mayor can give information.

Little Rock—Car-door Factory.—The Eubank Car Door Co. has been incorporated with William T. Kelley, president; Thomas Eubank, vice-president, and Maurice W. Clark, secretary, to manufacture the Eubank patent storm and spark-proof car door. The capital stock is \$100,000.

Little Rock—Oil Mill.—Alston Boyd, president of the Crescent Cotton Oil Co., of Memphis, Tenn., and F. C. Edmiston have secured site in North Little Rock for the cottonseed-oil mill they intend building.

Paragould—Flour Mill.—The Paragould Roller Mill has been incorporated with a capital stock of \$12,000.

Pine Bluff—Broom Factory.—Isaac Moore intends starting a broom factory in Pine Bluff.

Pine Bluff—Car Shops.—The citizens have, it is

understood, raised the amount necessary to secure the new car shops of the St. Louis Southwestern Railway Co. (office, St. Louis, Mo.)

FLORIDA.

Bartow—Cigar Factory.—E. H. Gato, of Fort Myers, will start a cigar factory in Bartow.

De Land—Water Works.—As stated in last issue, the city will build a system of water works.*

De Land—Water Works.—The city has advertised for bids for constructing the water system mentioned last week. Plans and specifications can be had on application to L. E. Spencer, chairman water committee.

Jolly Bay—Lumber Mill.—Mr. Strickland will probably at once rebuild on a larger scale his Jolly Bay lumber mill lately burned.

Key West—Cigar Factory.—Ellinger & Co. have started another cigar factory.

Key West—Cigar Factory.—O'Halloran & Co. are making preparations to enlarge their cigar factory.

Ocala—Cigar-box Factory.—S. S. Savage contemplates starting a cigar-box factory.

Tampa—Cigar Factory.—Ernest Ellinger, of Key West, is considering the removal of his cigar factory to Tampa.

Tampa—Novelty Works.—Edenfield & Jetton and T. M. Henderson are erecting wood novelty works at Ybor City. They will operate as the Ybor City Novelty Works.

GEORGIA.

Athens—Cotton Mill.—The Alpha Mills, previously referred to, has been incorporated, and will put in cotton rope machinery and 2,000 spindles. W. D. Griffith and Henry Lovern are interested.*

Brunswick—Cigar Factory.—Thomas E. Blake-man and others, of Rome, will start a cigar factory in Brunswick.

Brunswick—Cigar Factory.—L. Greenwood, of Macon, has formed a company to manufacture cigars in Brunswick.

Dalton—Cigar Factory.—A cheroot and cigar factory will probably be started. R. M. Herron can give particulars.

Dalton—Iron Works.—The Manly Manufacturing Co. has nearly completed an addition to its iron works.

Dalton—Tobacco Factory.—Arrangements are under way for the establishment in Dalton of a plug tobacco and cheroot factory.

Jeffersonville—Cotton Ginnery.—DeWitt Carswell will rebuild his cotton ginnery recently burned.*

Macon—Sewerage System.—It is contemplated to expend \$19,000 for sewerage Vineville according to the plans of Engineer C. W. Hendricks.

Macon—Broom Factory.—V. Kahn has started a broom factory in Macon.

Rome—Plow Factory.—The Boggs Plow Co. has been organized with T. K. Boggs, president, and John D. Moore, secretary, to manufacture and sell a plow invented by Mr. Boggs. The company's manufacturing will be done by contract.

Savannah.—The Beaufort Land & Investment Co. has been incorporated by Walter J. Thompson, C. H. Dorsett and others with an authorized capital stock of \$500,000.

Savannah—Land Company.—The Columbia Land Co. has been incorporated by C. S. Wood, Max Robinson, Lester Hubbel and others with a capital stock of \$10,000.

KENTUCKY.

Bardstown—Electric-light Plant.—The erection of an electric-light plant is again being discussed in Bardstown.*

Covington—Car Seal and Lock Factory.—The Automatic Car Seal Lock Co. has been incorporated by Thomas J. Smith, A. W. Goldsmith, Lowe Emerson and others to manufacture and sell car seals and locks. The capital stock is \$300,000.

Covington—Land Company.—E. F. Abbott, B. R. Morton and G. M. Abbott have incorporated the General Land & Improvement Co. with a capital stock of \$50,000.

Covington—Mercantile Company.—The General Merchandise & Trading Co. has been incorporated by E. F. Abbott, B. R. Morton and G. M. Abbott with a capital stock of \$50,000.

Covington—Mining, etc.—The Agate Copper & Mining Co. has been incorporated by Faye Walker, D. B. Angell and J. H. Mead to mine and manufacture copper, iron, etc. The authorized capital stock is \$3,000,000.

Covington—Water Works.—The Kenton Water Co. has been incorporated by V. P. Collins, J. R. Coppin and M. C. Motch to construct and operate water works. The capital stock is 100,000.

Covington—Towboat Company.—The Huntington & St. Louis Towboat Co. has been incorporated by Alexander and Geo. H. Montgomery and

Frank M. Martin to build, purchase, own, etc., steamboats, towboats, etc. The capital stock is \$20,000.*

Covington—Sewerage System, etc.—The board of councilmen has adopted resolutions providing for the expenditure of \$250,000 in the construction of sewers and street improvements. The mayor can give particulars.

Covington—Gas and Oil Wells.—The Linden Place Oil Co. has been incorporated by Charles A. J. Walker, Louis Fritsche, Rudolph Walker and T. Heinemann to develop oil and gas lands, etc. The capital stock is \$100,000.

Covington—Mining, etc.—The Walker Copper & Mining Co. has been incorporated by Faye Walker, D. B. Angell and J. M. Mead to mine and manufacture copper, iron, etc. The authorized capital stock is \$3,000,000.

Lexington—Railroad Shops.—The Kentucky Union Railway Co. (office, Clay City) is grading the site preparatory to building its shops.

Ludlow—Water Works.—The city has awarded contract to Dimmick & Co., of Newport, for laying the pipe lines, etc., for the Ludlow water works for \$19,352.45.

Mt. Sterling—Gas and Oil Wells.—C. W. Fowler can give information concerning the company reported last week as to sink gas and oil wells. Machinery has already been purchased.

Owensboro—Grain Elevator.—The Owensboro Elevator Co. will build a grain elevator. T. S. Venable can give information.

LOUISIANA.

Cottonport—Sugar Refinery.—A \$50,000 stock company is being formed to build a sugar refinery.

MARYLAND.

Baltimore—Fruit Company.—The Baker Fruit Co. has been incorporated by Wm. Baker, J. F. Shipley and others.

Baltimore—Construction Company.—The Lyman, Fuller & Post Co. has been incorporated by Arthur W. Lyman, F. W. Feldner, C. W. Buckingham and others to construct railways, water works, electric-light plants, turnpikes, etc. The capital stock is \$10,000.

Baltimore—Chemical Works.—The Burroughs Bros. Manufacturing Co., mentioned in last issue as to erect a seven-story building for its chemical works, will largely increase its plant, putting in new boilers, engine and a variety of new machinery.

Baltimore—Kindling-wood Mill.—William G. Michael will rebuild his kindling-wood mill recently damaged by fire.

Baltimore—Marble Works.—The Evans Marble Co., referred to in last issue, will be a consolidation of several branch works, and takes charge January 1.

Cumberland—Rolling Mill.—Josiah Holmes has commenced the erection of a rolling mill.

Cumberland—Steel and Tinplate Works.—The Cumberland Steel & Tinplate Co., which is erecting two mills, expects to have two more mills in operation by January 1, with tinning-house.

Frostburg—Brick Works, etc.—The Borden Mining Co. contemplates developing clay beds and manufacturing brick.

Frostburg—Coal Mine.—Casper Workman will develop a coal mine at Sand Spring.

Gapland—Turnpike Company.—The Gapland Turnpike Co. has been incorporated by George Alfred Townsend, John D. Ahalt, J. C. Lane and others to build a turnpike.

Laurel—Electric-light Plant.—The city council has awarded contract for 100 incandescent electric lights, and a plant will be erected. The mayor can give particulars.

Towson.—The National Cycling and Athletic Association of Baltimore county has been incorporated by Parry Lee Downes, N. Tip Slee, E. C. Wollman and others to build a race-track, etc. The capital stock is \$30,000.

Union Mills—Saw Mill.—Nelson Koonitz is rebuilding his saw mill recently burned.

MISSISSIPPI.

Holly Springs—Cotton Compress.—The Holly Springs Compress & Manufacturing Co., referred to in last issue, put in an entire new machinery outfit at its compress.

Meridian—Knitting Factory.—Samuel F. Gill, secretary Board of Trade, reports that a \$25,000 stock company has been formed to erect the knitting factory mentioned in last issue, and machinery has been ordered.

Natchez—Steam Laundry.—D. C. Tully will rebuild the Natchez Steam Laundry lately destroyed by fire. Improved machinery will be put in.

NORTH CAROLINA.

Charlotte—Drug Company.—The Queen City Drug Co. has been incorporated by J. T. Williams, M. T. Page and R. B. Tyler with a capital stock of \$20,000.

Conclave—Cotton Gin.—J. C. Mason may rebuild some time next year his cotton gin recently burned.*

McAdenville—Cotton Mill.—An addition is being built to the McAden Mills.

Parmele—Lumber Mill.—Parmele & Eccleston are rebuilding their lumber mill.

Statesville—Machine Works.—J. C. Steele has completed two brick machines after his own designs, and expects to place the machines on the market next spring.*

Statesville—Tobacco Factory.—Clarke, Meyer & Co. contemplate enlarging their tobacco factory, which would necessitate new machinery.

Statesville—Tobacco Factory.—W. W. Rankin, of Mooresville, and T. J. Allison, will manufacture tobacco, and have leased the factory of the Statesville Development Co. Operations will be commenced January 1.*

Vanceboro—Hoop and Stave Factory.—W. H. Nixon will put in a full set of hoop and stave machinery.*

SOUTH CAROLINA.

Abbeville—Machine Shops.—John H. Winder, of Atlanta, Ga., superintendent Georgia, Carolina & Northern Railroad, writes that his company will build small repair shops at Abbeville.*

Branchville—Packing Factory.—Perry C. Dukes is considering the manufacture of packing shaving.*

Sumter—Sash, Door and Blind Factory.—Joel E. Brunson expects to build a sash, door and blind factory.

TENNESSEE.

Dyersburg—Tobacco Factory.—Sugg Bros. have started the tobacco factory reported last week.

Memphis—Batting, etc., Factory.—The Highland Manufacturing Co. will operate the factory previously reported as to be located on the line of the Raleigh Springs Railroad. Batting, carpet lining and shoddy will be manufactured.

TEXAS.

Belton—Flour Mill.—The Bell County Roller Co. has been incorporated by T. W. Cochran, R. S. Hobdy, L. S. Walker and others with a capital stock of \$30,000.

Dallas—Coal Tar and Asphaltum Works.—The Texas Coal Tar & Asphalt Co., which was incorporated at Newark, N. J., in July last, and which has a plant at Dallas, has obtained a charter in Texas. George E. Cory and Francis J. Palmer, of Chicago; C. E. Lockwood, of New York; M. T. Cone, of Dallas, and others are the incorporators. The capital stock is \$50,000.

Dublin—Cotton Gin.—Wasson & Miller expect to rebuild in the spring their cotton gin recently burned.*

Eagle Pass—Coal Mines.—The Olmos Coal Co. will probably develop a coal mine near Eagle Pass.

Fort Worth—Coal Mines, etc.—The Southwestern Fuel Co. has been incorporated by G. T. Potter, T. E. Walters, W. W. Stewart and others for the purpose of mining, handling and dealing in coal and coke. The capital stock is \$50,000.

Fort Worth—Improvement Company.—The North Texas Town & Improvement Co. has been incorporated by John F. Hayne, C. C. Allen, A. W. Caswell and others. The capital stock is \$100,000.

Marlin—Electric-light Plant and Ice Factory.—The Marlin Ice & Electric Light Co. has been organized by J. D. Idler and A. W. C. Grotte, of Kansas City, Mo.; H. G. Carter and Levy Bros. The erection of a 20-ton ice plant will commence at once. The capital stock is \$30,000.

McKinney—Cotton Compress.—The McKinney Compress Co., mentioned in last issue, has purchased machinery for its compress.

North Galveston—Hosiery and Wool-scouring Mill.—The North Galveston Hosiery & Wool Scouring Co. has been incorporated by F. R. Chase and others with a capital stock of \$25,000 to operate the hosiery and wool-scouring mill mentioned in last issue.

San Antonio—Pottery.—Nelson Mackey will shortly complete the organization of the company lately mentioned to operate a pottery. The pottery will be in a brick building 145 feet long and have two ovens. Sewer pipe, terra-cotta and all kinds of stone ware will be made.*

Terrell—Cotton Mill.—A. F. Parker, of Fort Worth, contemplates starting a cotton mill at Terrell.

Texas.—The Leidell Co., of North Carolina, manufacturer of farm implements, has been authorized to do business in Texas. The company is capitalized at \$100,000.

Waco—Lumber Mill.—The Fleming Lumber Co. has been incorporated by W. K. Kivett, E. L. Fleming and Ben Kivett with a capital stock of \$20,000.

Washington—Cotton Gin.—Primus Hawkins will rebuild his cotton gin recently burned.*

VIRGINIA.

Claremont—Nursery.—D. W. Babcock, of Dansville, will establish a nursery at Claremont.

Manchester—Sewerage System.—John E. Utz, chairman street committee, will receive proposals until November 30 for the construction of sewers for the city on plans made by Geo. E. Waring, Jr., or bidders may submit plans of their own.

Norfolk—Smelting Works.—Parties have purchased a site for smelting works.

Norfolk—Rolling Mill.—An English syndicate has purchased a site for a rolling mill through Byrd & Baldwin.

Petersburg, Va.—Trunk Factory.—Simon Stewart & Co. have selected a site for their new trunk factory, and will erect a large building for same.

Pocahontas—Water Works.—The town will build the water works mentioned in last issue or will allow other parties to do so. E. Goodman, Jr., chairman water works committee, can be addressed.

Richmond—Marine Railway.—The council committee on improvement of James river is considering the feasibility of investing \$5,000 or \$6,000 in the construction of a small marine railway.

Roanoke—Zinc Furnace.—The Pennsylvania Zinc & Iron Co., previously reported as to build a zinc furnace, will erect a plant with a capacity of ten tons of oxide of zinc per day.

Salem—Dairy Company.—The Salem Dairy Co. will be incorporated by A. M. Bowman, T. I. Preston and others to establish a creamery.

Star Tannery.—Coal Mine.—Mr. Corbett, of Washington, is developing a coal mine.

Suffolk—Mattress Factory.—Contract has been awarded for building the spring mattress factory on the property of the East Suffolk Land Co. The Suffolk Spring Bed Co. will operate the factory.

West Norfolk—Basket and Barrel Factory.—The Standard Truck Barrel Co. will at once rebuild its factory recently burned with increased facilities for making baskets and barrels.

WEST VIRGINIA.

Berkeley Springs—Water Works.—The Berkeley Springs Water Works & Improvement Co. has been incorporated.

Bluefield—Flour Mill.—Gooch & McCue are building a flour mill.

Central City—Blind, etc., Factory.—It is announced that the Monroe Manufacturing Co., of Lima, Ohio, has decided to remove its plant to Central City. The company manufactures inside blinds, bank fixtures, etc., and the capital invested will be upwards of \$50,000.

Charleston—Ice Factory.—The Charleston Ice Manufacturing & Cold Storage Co. has been incorporated with Robert Ballard, of 29 East Fourth street, Cincinnati, Ohio, president; R. W. Dugan, of Covington, Ky., vice-president, and F. A. Bryson, secretary. It contemplates building its factory at once. The capital stock is \$100,000.

Charleston—Phosphate Mines.—The Hayes Phosphate Co., mentioned last week as incorporated, hopes to begin operations early next year.

Harper's Ferry.—The Coles Blue Expander & Reader Co., lately mentioned, has received its charter. It has a capital stock of \$185,000 and is privileged to increase it to \$200,000.

Moses Fork—Coal Mines.—The Wells Branch Coal Co., previously reported as chartered, has been organized with Wm. D. Janney, of Ceredo, president; Daniel Fitter, of Philadelphia, secretary, and C. C. Coe, of Kenova, treasurer.

Parkersburg—Lumber Mill.—The Gauley Lumber & Manufacturing Co., of Parkersburg, has been incorporated by J. N. Camden and others. The company will cover all manufacturing operations of the West Virginia & Pittsburgh Boom & Lumber Co., leaving the latter to cover boom and dam privileges in the Gauley river.

Wheeling—Electric-power Plant.—The Wheeling Railway Co. has awarded contract for a new electric power-house.

Wheeling—Ice Factory and Electric-light Plant.—The Home Dressed Beef Co. will put in ice machinery and an electric-light plant at its works in Fulton.

BURNED.

Adel, Ga.—The planing mill and dry-kiln of the Adel Security Co.

Caroline County, Va.—Gill & Blatt's saw mill.

Durham, N. C.—The Faucette Tobacco Works.

Easley, S. C.—Minor Holcombe's cotton gin.

Eples Station, Ala.—J. J. Hillman's mill and cotton gin; loss about \$2,000.

Johnston, S. C.—Johnston Sash, Blind and Door Factory; loss estimated at \$30,000.

Jolly Bay, Fla.—Jolly Bay Mill; loss \$12,000.

Laurinburg, N. C.—H. McN. Lytch's mill and cotton gin.

Laverda, Texas.—Reese & Murray Bros.' cotton gin.

Lost River, W. Va.—Abraham Wilkins's saw mill on Lost river.

New Bern, N. C.—Hackburn & Willett's saw mill, box mill and fertilizer mill.

Pulaski County, Ga.—F. E. Phillips's cotton gin.

Staunton, Va.—W. H. Van Lear's saw mill on Cowpasture river.

Woodstock, Va.—Grove's saw mill in Powell's Fort.

BUILDING NOTES.

Alexandria, Va.—James T. Levi, of Washington, has been awarded contract for the erection of eleven buildings in Alexandria for Walker & Son, of Washington.

Augusta, Ga.—MacMurphy & Story have completed plans for a five-story brick and stone business building for Henry B. King.

Augusta, Ga.—Office Building.—J. B. White is reported as to erect a twelve-story office building in Augusta.

Baltimore, Md.—Hospital.—The Woman's Auxiliary of the Baltimore Homeopathic College will build a \$50,000 hospital.

Baltimore, Md.—Warehouse.—The trustees of the Johns Hopkins Hospital will build a four-story brick warehouse at Grant and Water streets.

Baltimore, Md.—Building permit has been granted to J. A. Evans for the erection of fourteen three-story brick buildings and to J. B. Yeatman for two three-story and twenty-four two-story brick buildings.

Beaufort, S. C.—School Building.—The Presbyterian Board of Missions for Freedmen will erect a school building in Beaufort.

Bellevue (P. O. Newport)—Church.—Trinity Lutheran Church has been granted a building permit to erect an edifice to cost \$3,500.

Charleston, W. Va.—Synagogue.—Higgs & Calderwood have been awarded contract for the erection of a synagogue.

Charleston, W. Va.—Ph. Frankenberger will build a \$10,000 residence.

Chattanooga, Tenn.—C. C. Howard will, it is stated, erect a brick business block in South Chattanooga to cost from \$25,000 to \$10,000.

Chattanooga, Va.—School Building.—It is stated that next spring buildings to cost \$60,000 will be erected for the Industrial Temperance and Collegiate Institute at Claremont. Rev. John J. Smallwood can give particulars.

Dallas, Texas—Public Building.—W. J. Edbrooke, supervising architect, Washington, D. C., will receive proposals until December 8 for all the labor and materials required for the erection and completion (except plumbing and heating apparatus) of the extension to the United States courthouse and postoffice building at Dallas, Texas.

Del Rio, Texas—Church.—The Baptists intend building a church.

Del Rio, Texas—School Building.—The plans of E. S. Machin, of Austin, have been adopted for the new public school building. W. K. Jones can be addressed.

Galveston, Texas—School Buildings.—The erection of one or more school buildings in the extreme west end of the city is under consideration. The secretary of the school board can give particulars.

Hawkinsville, Ga.—School Building.—A \$10,000 public school building will be erected. The mayor can be addressed.

Llano, Texas.—Mrs. E. Haynie will erect a two-story business building.

Lookout Mountain, Tenn.—Hotel.—David B. Plumer, manager Lookout Inn, reports that the hotel will be greatly improved. A new brick boiler-house will be built and an additional 100 horse-power boiler put in. A new music hall may be built.

Louisville, Ky.—Hospital.—The city will rebuild the Eruptive Hospital mentioned in last issue at a cost of \$10,000.

Manor, Texas—Hall, etc.—A Masonic hall 36x70 feet will be built. J. W. Biting will erect a brick business building 35x100 feet.

Martinsburg, W. Va.—Public Building.—W. J. Edbrooke, supervising architect, Washington, D. C., will receive proposals until December 6 for all the labor and materials required to build complete the superstructure (except plumbing, heating apparatus and approaches) of the United States courthouse and postoffice building at Martinsburg.

Memphis, Tenn.—The Raleigh Springs Railroad Co. will erect a large building.

Montgomery, Ala.—Depot.—The Western Railway of Alabama (office, Atlanta, Ga.) has purchased a site in Montgomery for a freight depot.

Owensboro, Ky.—Warehouses.—Cam Riley, Jr., intends building a bonded warehouse, also a large tobacco warehouse.

Plant City, Fla.—School Building.—A school building will be erected.

Portsmouth, Va.—Market-house.—Contract for building the market-house lately reported has been let to Tee & Brittingham. Carpenter & Peebles prepared the plans.

Richmond, Va.—Hotel.—Lewis Günter and John Pope, of Richmond, and Mr. Ahrens, of New

York, have purchased a site on which they intend building a hotel.

Roanoke, Va.—Warehouse.—Dr. Jas. A. Gale has let contract to Frank May for the erection of the warehouse lately noted. It will be three stories, 55x90 feet, and cost about \$5,000.

Salversville, Ky.—Courthouse.—Magoffin county has awarded contract to Milburn & Son for building the new courthouse. F. P. Milburn, of Winchester, Ky., prepared the plans.

Staunton, Va.—Market-house.—Contract has been awarded to Payne & Hulvey at \$16,948 for building the market-house lately mentioned. T. J. Collins is architect.

Sumter, S. C.—Synagogue.—The Jewish congregation will build a synagogue.

Velasco, Texas—College.—The managers of the Odessa College fund have, it is stated, decided to build a \$100,000 college on land donated by A. D. Kary.

Washington, D. C.—Robert Head has prepared plans for the erection of ten three-story brick buildings to cost \$50,000 for Mr. Lawson; W. T. Haller, plans for a \$12,000 brick residence to have hot-water heating, electric bells, etc., for Mrs. A. M. McMillan.

Wheeling, W. Va.—Power-house.—M. F. Giesy has prepared plans for a power-house 98x83 feet and twenty-eight feet high for the Wheeling Railway Co. Murray Bros. have the contract.

RAILROAD CONSTRUCTION.

Atlanta, Ga.—Belt Railroad.—H. B. Baylor and E. B. Latham are interested in a project to build a new belt railroad.

Cartersville, Ga.—Railroad.—Saml. Carter and others are organizing a stock company to build the railroad from Cartersville to Benton, Tenn.

Coeburn, Va.—Railroad.—The Norfolk & Western Railroad Co. will, it is said, extend its branch road through Coeburn to Fuller's Gap.

Daytona, Fla.—Railroad.—The Jacksonville, St. Augustine & Indian River Railroad Co. (office, St. Augustine) has commenced replacing the old iron rails on its road between Daytona and Windemere with steel rails.

Florence, Ala.—Railroad Bridge.—The Memphis & Charleston Railroad Co. (office, Memphis, Tenn.) has awarded contract to Neely & Smith for constructing twelve stone piers for its new bridge across the Tennessee river at Florence.

Franklin, Ga.—Railroad.—The construction of a railroad from Franklin to Newnan is being discussed.

Huntsville, Ala.—Street Railway.—W. S. Wells, president of the Northwestern Land Association, has been granted franchise to construct a street railway.

Jackson, Miss.—Railroad.—The Chickasawhay & Jackson Railroad Co., lately mentioned, has commenced building its railroad. The road is to extend from the Chickasawhay river to Jackson, a distance of twelve miles, and D. O. Guyann, of Bucatunna, has the contract.

Jackson, Tenn.—Electrical Railroad.—The construction of an electrical railroad is probable.

Jacksonville, N. C.—Railroad.—H. A. Whiting, general manager of the Wilmington, Onslow & East Carolina Railroad Co. (office, Wilmington), writes that work on the extension from Jacksonville to New Bern was only recently resumed, and it will be several months before its completion.

Jellico, Tenn.—Railroad.—The East Tennessee Iron & Coal Co. intends building a railroad through its property.

Lexington, Tenn.—Railroad.—N. R. Olcott, chief engineer Paducah, Tennessee & Alabama Railroad (office, Paducah, Ky.), reports that preliminary survey has recently been made in the direction of Clifton of the proposed extension of that road from Lexington to Florence, Ala. As surveyed the route is favorable, and will probably be completed at an early date.

Machen, Ga.—Railroad.—The Middle Georgia & Atlantic Railway Co. (office, Eatonton) has effected financial arrangements for completing its road from Machen to Covington, a distance of twenty-four miles, and work will soon commence.

Nashville, Ark.—Railroad.—A survey has been made for an extension of the Arkansas & Louisiana Railroad (office, Washington, Ark.) from Nashville to Centre Point.

Radford, Va.—Street Railway.—W. H. Mackay, of Roanoke, has contract for the street railway of the Radford Street Railway Co., lately mentioned, and has commenced work.

Savannah, Ga.—Railroad.—The Florida Northern Railroad Co. will, it is understood, be incorporated in Florida to build the line from Hart's Roads, Fla., to Savannah, connecting the South Bound and the Florida Central & Peninsular.

Siluria, Ala.—Railroad.—A railroad will, it is stated, be built from Siluria to a saw mill ten miles distant by H. F. De Bardeleben, of Birmingham, and others.

Swan Lake, Ark.—Railroad.—Work has commenced on the extension of the Pine Bluff & Eastern Railroad from Swan Lake to English.

West Point, Ga.—Railroad.—The Chattahoochee Valley Railroad Co., referred to in last issue, has been incorporated by W. C. Phil., R. E. F., H. and L. Lanier and A. S. Freeman to build a railroad from West Point to Eufaula. The capital stock is \$200,000.

Wheeling, W. Va.—Terminal.—It is estimated that the improvements to be made by the Wheeling & Lake Erie Railway Co. (office, Toledo, O.) at its Wheeling terminus will cost \$150,000.

MACHINERY WANTED

If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will thus get all information desired as to prices, etc.

Artesian Well.—The city of Key West, Fla., will receive proposals to sink an artesian well, if necessary 5,000 feet. B. E. Whalton, chairman board of city commissioners, can be addressed.

Asphalt Machinery.—The St. Jo Asphaltum Co., R. O. Jones, secretary, St. Jo., Texas, will want machinery, but has not decided yet as to kind, etc.

Barrel-head Rounder.—The Villa Rica Lumber Co., Anniston, Ala., wants a second-hand barrel-head rounder for slack barrels.

Bending Rolls.—M. A. Castoe, Room 8, Hood Building, Birmingham, Ala., wants one set of second-hand bending rolls.

Boilers.—J. C. Steele, Statesville, N. C., wants boilers of from twelve to thirty horse-power.

Boilers and Condensers.—The Burns Manufacturing Co., Atlanta, Ga., wants steam boilers for using salt water and steam condensers for use with a 30-ton ice-making plant to be located on the seashore. Water of an average temperature of eighty-five degrees F. will be used.

Canning Machinery.—The Geo. H. Geiger Co., Baltimore, Md., will buy machinery for processing early in spring.

Conveyors.—DeWitt Carswell, Jeffersonville, Ga., will want seed conveyors for a cotton gin.

Cotton Gin.—Wasson & Miller, Dublin, Texas, will want complete outfit for cotton gin, excepting boiler and engine.

Cotton Gin Outfit.—J. J. Hilman, Epes Station, Ala., will want a 70-saw gin, feeder and condenser and steam press.

Cotton Gin and Press.—J. C. Mason, Conclave, N. C., may want an 80-saw cotton gin and a steam cotton press.

Cotton Gins and Presses.—DeWitt Carswell, Jeffersonville, Ga., will want cotton gins and presses.

Cotton Mill.—W. D. Griffith, Athens, Ga., wants full outfit of 2,000 spindles to make No. 5 yarn.

Cotton-rope Machinery.—W. D. Griffith, Athens, Ga., wants cotton-rope machinery.

Creamery.—A. M. Bowman, Salem, Va., will purchase dairy machinery towards spring, and possibly some things earlier.

Drill.—The Melrose Diamond Drill Co., Little Rock, Ark., may want another drill in the spring.

Electric-light Plant.—Contractors for electric-light plants should address H. B. care Record Printing Co., Bardonia, Ky.

Electric-light Plants.—The Huntington & St. Louis Towboat Co., Covington, Ky., will want to buy two electric-light plants, one for search-light, and two are lamps for steamboat use. Address A. Montgomery.

Engine.—J. J. Hilman, Epes Station, Ala., will want a fifteen horse-power engine.

Engine.—Primus Hawkins, Washington, Texas, wants to purchase a fifteen horse-power engine.

Furnace.—Rev. W. W. Dorman, Scottsboro, Ala., wants prices on furnaces for heating church. Grist Mill.—J. J. Hilman, Epes Station, Ala., will want a 26-inch grist mill.

Hoop Machinery.—W. H. Nixon, Vanceboro, N. C., wants a full set of coiled hoop machinery.

Lead.—Howard Neely, Chattanooga, Tenn., is in the market for 80,000 pounds of lead.

Machine Shops.—The Georgia, Carolina & Northern Railroad Co., John H. Winder, superintendent, Atlanta, Ga., will need some light machinery for repair shops.

Packing-shaving Machinery.—P. C. Dukes, Branchville, S. C., wants information regarding packing-shaving machinery.

Pipe.—Howard Neely, Chattanooga, Tenn., is in the market for cast-iron pipe.

Pumps.—Howard Neely, Chattanooga, Tenn., is in the market for pumps for water works.

Punch and Shears.—M. A. Castoe, Birmingham, Ala., wants prices on punch and shears. A good second-hand set would answer purpose.

Rails.—S. W. Saunders, Rocky Mount, Va., wants second-hand rails to lay 600 yards of track.

Ram.—Reginald Dykers, Waynesville, N. C., wants a ram for lifting water from a creek to run a water motor.

Resaw.—E. M. Irish, Hammond, La., wants an 18-22 resaw for making siding.

Saw Mill.—E. J. Gurley, Waco, Texas, desires to purchase a saw mill outfit for use in the State of Colima, New Mexico, and prefers buying in San Francisco, Cal.

Sewer-pipe Press.—Nelson Mackey, San Antonio, Texas, wants a good sewer-pipe press.

Stave Machinery.—W. H. Nixon, Vanceboro, N. C., wants stave machinery.

Tannery Equipment.—R. W. Hawley, Talladega, Ala., wants prices f. o. b. Talladega on two red cedar leaches five feet deep, twelve feet diameter, 2½-inch staves.

Tobacco Machinery.—W. W. Rankin, Statesville, N. C., will buy retainers, box screw-sets, etc.

Trunk Factory.—Simon Seward & Co., Petersburg, Va., will purchase some machinery for a trunk factory.

Water Mains.—The Board of Water Commissioners, Cumberland, Md., has been authorized to purchase and lay new mains at an expenditure of not more than \$3,000.

Water Works.—Bids will be received by the city clerk, De Land, Fla., until December 1 for constructing a portion of a system of water works. The specifications provide for a Worthington steam pump 10x6x10 or a Worthington fire pump 10x5x10, boiler of suitable capacity, standpipe tank twenty feet deep and twenty feet diameter, of iron or steel, and to be elevated seventy-five feet, 1,300 feet of 10-inch cast-iron pipe and 1,400 feet of 4-inch pipe, with two fire hydrants.

Water Works.—The town of Pocahontas, Va., will build water works or will grant franchise to outside parties, and correspondence is invited. Address E. Goodman, Jr., chairman water works committee.

Woodworking Machinery.—J. S. Betts & Co., Ashburn, Ga., are in the market for a heavy timber machine to dress sixteen inches thick, four sides at a time.

M. L. Arnold, county judge, Batesville, Ark., is receiving bids for the construction of a 120-foot bridge across Greenbrier creek.

The Boggs Plow Co., of Rome, Ga., wants to correspond with plow-manufacturing companies. Address J. D. Moore.

The Florence Furniture Co., Florence, Ala., will purchase stains, varnishes, mirror-plates and marble.

W. S. Wells, president of the Northwestern Land Association, Huntsville, Ala., invites proposals for furnishing 100,000 feet of white oak cross-ties for a street railway. They are to be sawed 4x6 and either seven or fourteen feet long.

SOUTHERN FINANCIAL NEWS.

New Banks.

Charleston.—The Commercial Savings Bank has been incorporated by W. A. Ohley, L. H. Wilson, E. W. Staunton and others. The capital stock is \$50,000.

Luray, Va.—Application has been made for authority to organize a national bank in Luray.

Martinsburg, W. Va.—The Citizens' National Bank has been authorized to commence business, with J. W. McSherry, president, and John B. Wilson, cashier. The capital stock is \$100,000.

Palatka, Fla.—The Putnam National Bank, lately referred to, has been authorized to commence business with a capital stock of \$50,000.

Pensacola, Fla.—L. Hilton Green and associates have applied for authority to organize the Citizens' National Bank of Pensacola.

Warrenton, Ga.—The bank lately reported as organized with W. S. Witham, president, and J. A. Allen, cashier, will commence business about November 15.

Williamson, W. Va.—The Bank of Williamson has been incorporated by R. H. Prichard and others with a capital stock of \$25,000.

Athens, Ga.—The Atlanta Trust & Banking Co. has purchased at par the \$125,000 of 5 per cent. water works bonds mentioned in last issue.

Austin, Texas.—Mayor John McDonald has been authorized to sell the remaining \$500,000 of water works and electric-light bonds at par and accrued interest, allowing a 5 per cent. commission. The total issue of these bonds is \$1,400,000, of which \$300,000 have been sold.

Hawkinsville, Ga.—The city has sold \$10,000 of school bonds.

Houma, La.—The Bank of Houma, lately referred to, was organized July 21, 1892, and at the end of first quarter increased capital stock to \$15,000, placing the additional stock at 115. The

business of the first quarter netted a 3 per cent. dividend, and the bank has a surplus of \$1,000.

Ludlow, Ky.—The city will sell on November 15 \$25,000 of 20-30-year 5 per cent. water works bonds. A. V. C. Grant, city clerk, can be addressed.

Louisville, Ky.—The First National Bank of Louisville has declared a semi-annual dividend of 6 per cent.

Nashville, Tenn.—The city has accepted the bid of W. J. Quintard, of New York, of par and \$3,050 premium for the \$100,000 of 4½ per cent. water works bonds. Recently the city sold \$160,000 of internal improvement bonds to Fisher & Shaw, of Baltimore. The total bonded debt of the city, including the above, is \$3,012,600, of which amount the water debt of \$1,500,000 is self-sustaining, making the total city debt proper \$1,512,600.

Portsmouth, Va.—The Seaboard & Roanoke Railroad Co. has declared a semi-annual dividend of 3 per cent.

Staunton, Va.—A branch of the Eastern Building and Loan Association of Syracuse, N. Y., has been organized with J. M. Lickitter, president.

Wichita Falls, Texas.—The Wichita County Investment Co. has been incorporated by M. Lasker, J. Davis and D. Sachs, of Galveston; A. S. Stinett and others. The capital stock is \$250,000.

TRADE NOTES.

The Hover Ink Co., which was established in Philadelphia, Pa., in 1841, lately removed its factory to North East, Md., and is now manufacturing at that place. The company's office remains in Philadelphia.

The Nordyke & Marmon Co., of Indianapolis, Ind., has just received an order from a firm in the province of Santa Fe, Argentine Republic, for the complete outfit required for a flour mill of 125 barrels daily capacity.

The American White Lead and Color Works, New Orleans, La., has placed contracts for rebuilding its plant destroyed by fire on October 6. The new plant will be about three times larger than formerly. The company will extend its trade to Cuba and Mexico and South America. The improvements will cost about \$20,000.

The M. C. Bullock Manufacturing Co., of Chicago, Ill., is so pushed with orders for its well-known machinery specialties that the works are running double time, operating twenty-three hours a day. The company gives the opinion that the outlook for trade is very bright and will likely remain so during the winter and coming spring.

A new form of dry-kiln for lumber, using saw-mill refuse as fuel, has been invented by W. Graham, of Siding, Lauderdale county, Miss., and is being placed on the market by the Globe Dry-Kiln Co., of Meridian, Miss. The advantage claimed for the kiln is that it uses hot air for drying purposes, and at the same time the furnaces are at such distance from the building that there is no danger from fire.

JOSEPH CLARKSON & SON, of Baltimore, Md., manufacturers of woodworking machinery, have just completed one of the largest and heaviest wood-planing machines ever made. It was built to order for the Maryland Steel Co. at Sparrow's Point, who will use it for dressing the large timbers used in shipbuilding. The machine weighs fifteen tons and dresses a piece of timber thirty inches square and eighty feet long.

OWEN & MARGESON, of Hornellsville, N. Y., manufacturers and operators of the steam carousel, or merry-go-round, have been making a number of decided improvements to their machines during the past season, and expect to make some further changes this winter. They expect to have twenty-five machines on hand ready for spring and will endeavor to make more, as the prospects are that they will not be able to keep pace with orders.

THE Boston Bridge Works, of Boston, Mass., has been awarded the contract for the construction of the Tombigbee river bridge on the Meridian subdivision of the East Tennessee, Virginia & Georgia Railroad. The bridge will consist of one 260-foot draw span and two fixed spans of 160 feet each. The distance from the bed of the river to the base of the rails will be about eighty feet. The bridge will be for a single track. The contract calls for the removal of the old bridge and the erection of the new structure.

THE International Railway Equipment & Supply Co. is offering for sale eight Monarch parlor sleeping cars, two of which have been running for the past summer over the White Mountain route, and the others in the hands of a trust company. The cars are of the well-known Monarch pattern and finish, made by Gilbert, of Troy, N. Y. Each contains a toilet and smoking-room and buffet. Each car is provided with twenty-four

revolving chairs which knock down easily when sleeping accommodations are required.

THE Graves Elevator Co., of Rochester, N. Y., has removed its office in Atlanta, Ga., from the old Capitol building to the new seven-story marble office building just completed by Mr. W. P. Inman, and known as the Inman Building. This office building is fitted up with steam heat, electric lights and one of the Graves hydraulic passenger elevators, which is extensively used in the South, and makes the upper floors as available for offices as the ground, only requiring twelve seconds to run from basement to the top.

ON November 4 the employees of the Jeffrey Manufacturing Co., Columbus, Ohio, gave a "shop warming" to their friends, an occasion which was well attended and enjoyable in every respect. The souvenir programme was in itself a feature of entertainment. Under the heading "Job Numbers" came the list of dances, beginning with "The Jeffrey" waltz, then a "Mining Machine" quadrille, and so on through the list to the "Home, Sweet Home—on Motor Cars," which was the finale. The collation, which was entitled "First Chance In" on the menu, was delightful, notwithstanding the somewhat suggestive titles of some of the courses, "Sheet Iron Wafers," "Pickled Rivets and Bolts" and others, which appeared.

THE B. F. Sturtevant Co., Boston and Chicago, has received orders recently for supplying its system of heating to the large foundries being constructed by the National Malleable Castings Co., Chicago, and the Carnegie Steel Co., Bessemer, Pa. Each of these plants will require a blower over twenty feet in height, and the heaters will contain over three miles of 1-inch steam pipe. Both will also be supplied with the Sturtevant cupola blowers, to be driven by direct-connected Sturtevant electric motors, and will be the largest of this type of machine that have been installed in this country. The Sturtevant Company has also fitted the Erwin Cotton Mills Co. at Durham, N. C., and the Kershaw County Manufacturing Co. at Camden, S. C., with its system of heating and ventilating.

MR. SAMUEL L. AVERY, who has been identified with the manufacture of agricultural implements in Louisville, Ky., for quarter of a century past, has contracted with a number of the largest manufacturers in this country to represent them in the South. The list of these firms includes the Otto Gas Engine Works, the Knowles Steam Pump Works, B. F. Sturtevant & Co., Upson Nut Co., J. J. Adams & Co., Merchant & Co., Standard Tool Co., Standard Paint Co., National Refining Co., National Safe & Lock Co., Vost Writing Machine Co., Caldwell Manufacturing Co. and George Upton. The Avery Supply Co., under which name Mr. Avery will conduct the business, will handle the goods made by these manufacturers, an office and warehouse having been opened at No. 505 Main street, Louisville.

THE Stilwell & Bierce Manufacturing Co., of Dayton, O., has recently built for the Allen & Dumas Co., of Macon, Ga., a cornmeal plant of 1,250 bushels daily capacity, and also a 10,000-bushel grain elevator. This plant is operated by two Victor turbine wheels, 35 and 30-inch, operating under a 9-foot head of water. The same firm has also put in a pair of seventeen and a-half horizontal wheels under a 20-foot head for the Trion Manufacturing Co., of Trion, Ga. These wheels operate 700 incandescent lamps, six cotton gins, two presses and elevator machinery. They are now building wheels for the Pacolet Cotton Mill No. 3 in South Carolina. Mr. J. W. Taylor, who has charge of the Atlanta office of the Stilwell & Bierce Manufacturing Co., states that the outlook for trade in that section is most encouraging.

TRADE LITERATURE.

THE Fulton Steam Boiler Works and Foundry, of Richmond, Ind., has issued a folder containing illustrations of its works and of some of the boilers and boiler settings produced. The illustrations are colored and well executed, giving a good idea of the appearance and construction of the boilers. With each illustration is a concise foot-note giving the principal features, to which attention is called.

THE B. F. Sturtevant Co., Boston, Mass., has printed a second edition of 10,000 copies of its 200-page general catalogue No. 61, which describes the uses of the Sturtevant blowers, exhausters, engines, forges and heating and ventilating apparatus. It is the desire of the Sturtevant Company that a copy shall be placed in the office of every superintendent, purchasing agent, engineer or manufacturer using such machinery. It will be mailed free of charge.

THE Ehret-Warren Manufacturing Co., of St. Louis, Mo., have issued a catalogue and price-list of roofing, building and sheathing papers manufactured by them. These papers are the well-known "Black Diamond" brand, with which all builders are familiar. The company announce in this catalogue that they have made a new departure in putting up tarred felts, and can give

the trade the choice in buying either rolls containing a guaranteed number of square feet or, as in the past, at a fixed price per hundred pounds.

THE Ball-Ball Co., of Frankford, Philadelphia, Pa., have issued a neatly-designed pamphlet describing and illustrating the extensive line of fine drawing instruments which they manufacture. This is the third edition of this catalogue for 1892. The instruments shown in the illustrations have that neat and substantial appearance which will recommend them to every draftsman, and the well-known reputation which the makers have of doing fine work assures accuracy and good quality of material. The catalogue should be in the office of every draftsman.

THE history of the Cleveland Twist Drill Co., of Cleveland, Ohio, as told in a little pamphlet issued by them, is a interesting reading in more than one way. It shows the practical and intimate knowledge of the founders with the results required of the tools they made, and further, is a good example of what ability, hard work and perseverance can accomplish. The two men who started this work in 1874 have pushed steadily forward, improving and increasing their product each year, until they are recognized as among the leading makers of tools of this class.

THE Heffernan Stained Glass Works, of Lynchburg, Va., has issued a catalogue of new designs for stained-glass windows of all kinds. The designs for leaded windows are all neat and appropriate, some of the leaded art-glass designs being particularly effective. The embossed glass designs are all highly artistic, and evince careful study and execution. These works are making a specialty of memorial windows of figures or geometrical designs, and are successfully competing in prices, designs and workmanship with the best establishments in Europe and this country.

THE Lidgerwood Manufacturing Co., 96 Liberty street, New York, has issued a neat pamphlet containing numerous illustrations of the new rapid un-loader manufactured by them. This machine for unloading dirt, gravel and other material from flat cars has been highly indorsed by contractors and engineers; indeed, even an examination of the illustrations in this pamphlet would be sufficient to convince anyone of its excellence. The illustrations are from photographs taken on the line of the Delaware & Hudson Canal Co. above Whitehall, N. Y., and show the working of the device from the first load of earth to the empty cars returned for loading.

JOSIAH ROSS, manufacturer of woodworking machinery in Buffalo, N. Y., has issued a neat illustrated catalogue showing the lines of machinery for which he is well known. Among the newer machines are noticed the Buffalo planers, four-roll Acme surfacer, a new metal band saw, a new wood lathe with ball bearings and some improvements in swing saws, and also an extensive addition to the list of sash and door machinery. Excellent descriptions accompany the illustrations of both the old and the new and improved machines. The prices are given in each case, making the catalogue valuable to the woodworker both by reason of the explanation of the machines and the service for which they are intended and in showing the cost of each.

FOR the convenience of buyers and others seeking steam specialties and appliances, a very complete directory of steam specialties and engineering appliances has been recently compiled and issued by A. J. Hewling, of 218 Lake street, Chicago. The work contains a very full list of all the manufacturers of goods commonly used by engineers, etc. It is especially valuable to those preparing catalogues, as it brings them directly into communication with the manufacturer, to whom it is necessary to apply for price-lists and electrotypes. Representing as it does over 1,500 specialties and 500 engine builders, the volume will certainly save money to those who will consult it. It is of very handy size, bound in flexible leather cover, and is sold for \$1.00.

Southern Iron Notes.

THE Augusta Mining & Investment Co., of Cedartown, Ga., which owns and operates mining properties in Georgia, Alabama and Virginia, was placed in the hands of a temporary receiver three weeks ago. Since that time the receivership has been made permanent, Charles W. Haskins, president of the company, being the appointee. The various properties of the company are estimated as worth about \$1,000,000.

E. F. POWERS, of Middlesborough, Ky., has recently returned from England and states that stockholders in the American Association and also in the Town Company are displaying a greater interest and willingness to aid in carrying out plans providing for the success of the town than for the past two years. He states further

that the president of the Watts Iron & Steel Co. expressed great confidence in the outlook for iron and hopes to have the Middleborough plant in operation as soon as it can be completed.

THE Rome (Ga.) Rolling Mill Co.'s plant and business have been placed in the hands of J. C. Moore as temporary receiver. A hearing to decide if a permanent receiver is necessary was to be held before Judge Henry on November 9. New York parties caused this appointment, but as their claims are only for small amounts matters will soon be satisfactorily settled.

A COMPANY with a \$50,000 capital and composed of Northern parties has purchased the plant of the Midway Iron Co. at Roanoke, Va., for \$7,000. The purchasers have bound themselves to operate the plant to its full capacity for five years, and will necessitate the employment of 100 men.

It is said that a glass works in Liverpool has glass journal boxes for all its machinery, a glass floor, glass shingles on the roof and a smokestack 105 feet high wholly out of glass bricks, each one foot square. It is to be supposed that the owners have a high regard for that old maxim about throwing stones.

GORDON LEE, of Chattanooga, Tenn., is interested in the subject of tobacco-growing and expects to plant a large amount on his lands at Crawfish Springs next year. A number of other planters around Chattanooga are taking an interest in the tobacco-growing movement, and it is thought that a large experimental crop will be raised during the coming year. It is proposed to use the old chair factory and Willingham's planing mill for warehouses.

It is reported that C. P. Huntington has bought the extensive iron mines and iron and steel works at Durango, Mexico, and intends operating them in connection with the Mexican International Railroad. The iron ore deposit at this place is one of the largest in the world, and contains all qualities, from ore containing nearly 70 per cent. iron down. The price paid is not known, but it will be a large one, as considerable work in erecting and developing has been done there during the past five years.

OPPORTUNITIES FOR INVESTMENT

We shall be pleased to answer communications and give information concerning the following opportunities for investment. Address all correspondence to the MANUFACTURERS' RECORD, Baltimore, Md., and be particular to give the number of the advertisement to which you refer.

No. 1—STREET RAILWAY.—The owners of a valuable street railway franchise in Texas, extending through the thickly settled portion of a large city and into the suburbs, desires to place the securities of the company or to negotiate a loan to be used in the construction of the road. The cost of building the line is estimated at \$50,000, and it is calculated to yield a gross annual revenue of \$50,000.

No. 2—COTTON MILL.—A part owner in a Southern cotton mill which has been in successful operation for a number of years, desires to obtain money for the purchase of the other interests in the property. Ample security will be given for a loan of \$40,000.

No. 3—IRON FOUNDRY.—An iron foundry engaged in the manufacture of a specialty for which there is a ready sale, has demand for twice its present output. The company desires to increase its capital to the extent of \$10,000 for the purpose of doubling the capacity of its plant.

No. 4—HOTEL.—A hotel in a prosperous Southern city, which cost \$80,000, can be purchased for \$45,000, including all furniture and fixtures and about seventy-five lots adjoining, 25 by 150 feet. House is new and in good condition. Connects with business part of the city by granite sidewalks, and electric cars pass the hotel every five or ten minutes. Reasonable terms will be made with a responsible purchaser.

No. 5—RAILROAD CHARTER.—The holders of a charter for a railroad 340 miles in length desire

to secure the capital necessary for its construction. The line runs for nine miles through large deposits of iron ore; 100 miles of the line is through valuable fields of cannel and coking coal. There is a rich oil field on the route, and for 100 miles it traverses valuable timber lands containing oak, walnut, cherry, poplar and other woods. In the tributary agricultural territory 100,000,000 pounds of tobacco are produced.

No. 6—PHOSPHATE LAND near Eureka, Fla., in the phosphate belt. It is heavily timbered with long-leaf pine; also a small tract near Fort Meade, Fla. Several small tracts in Marion, Orange, Lake, Polk, Pasco and Putnam counties, Fla., suitable for orange and vegetable growing.

No. 7.—A MANUFACTURING COMPANY in Texas desires to place \$25,000 ten-year 8 per cent. mortgage bonds, the total issue being \$50,000, of which \$32,000 has already been sold. The proceeds are to be used for final payments on machinery and for working capital. The bonds are secured by the entire property of the company, consisting of factory building, machinery and real estate, all of which has a clear title and is free of any incumbrance.

HOW DIGINITARIES WERE BROUGHT

Magnificent Trains Run Over the Pennsylvania System.

[Chicago Herald, October 22, 1892.]

One of the most important and successful features in connection with the dedicatory exercises of the World's Fair grounds, and one which fully illustrates the wonderful progress which our country has made within the last half century, was the movement made by the Pennsylvania Railroad Co. of the cabinet officers, the Supreme Court justices and the diplomatic corps from Washington to this city and back. It required three special trains to perform this function, and Vice-President Frank Thomson, to whom the credit of the achievement is due, made requisition on the Pullman Palace Car Co. for the finest equipment which those famous car-builders could produce. The result was a triple section train such as has never before glided over the rails in any country. A crew of twenty-five persons, including stewards, cooks, waiters, porters, maids, electricians and machinists, in addition to the usual quota of trainmen, was required to insure proper service. The outfit resembled in a somewhat lessened degree the personal equipment of an ocean greyhound, of which the trains were a duplication on land.

These trains were provided and tendered for the use of the distinguished guests of Chicago by Vice-President Thomson. They were run from Washington to Chicago as sections of the regular "Chicago Limited," of which they were duplicates, and they conformed to the regular schedule of that train. With the thorough organization of the Pennsylvania Railroad Co. and its splendid system they came through the entire distance, on the special schedule time arranged for them, without accident or delay of any kind, and this in the face of an extraordinarily increased passenger traffic. The great line is in such excellent physical condition, so well protected by the safeguards of modern invention and so perfectly managed by a corps of men who have been educated and trained under the eyes of its high officials, that a movement of this kind, extraordinary as it may appear to the public, was effected without interfering in any manner with the routine of every-day traffic.

It is safe to say that while no other country in the world would be able to move the entire organization of its government a distance of 1,000 miles, so there is no other railroad company which could grapple with such a problem and solve it with the ease to the persons in interest and the credit to itself that has distinguished this achievement of the Pennsylvania Railroad. It reflects the utmost credit on Vice-President Thomson, who planned, and his associates, who executed, the brilliant feat of railroad transportation, and holds out a bright promise of equally successful work when the resources of this line will be drawn upon next year to furnish adequate transportation facilities to the hosts who will visit the world's greatest fair.

Where Quail and Deer Abound.

The best quail shooting may be had in the Shenandoah valley, Virginia, and the best deer hunting in the mountains of West Virginia. Both sections are accessible by Baltimore & Ohio express trains from New York, Philadelphia, Baltimore and Washington. For detailed information as to rates, time of trains, etc., write to Chas. O. Scull, general passenger agent B. & O. R., Baltimore, Md.

Winter Excursion Tickets

To all Florida and other Southern health and pleasure resorts, to Havana, Cuba, to Asheville and Hot Springs, N. C., Luray, Old Point Comfort, Atlantic City and other winter resorts have been placed on sale at Baltimore & Ohio ticket offices at greatly reduced rates. For detailed information apply to nearest B. & O. ticket agent, or to Chas. O. Scull, general passenger agent, Baltimore, Md.

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TO THE UNDERLYING BONDHOLDERS IN THE Richmond & Danville System.

After careful investigation, the committee appointed to look after the interests of the underlying bondholders in the Richmond and Danville System has concluded that it is absolutely necessary that the holders of these bonds, and more especially of those upon which there has been a default in the payment of interest, shall combine for their mutual protection and for the enforcement of their just and legal claims. The policy of the parties heretofore controlling the Richmond and Danville Company has clearly indicated an interest in the bonds and stocks of the Richmond and West Point Terminal and Warehouse Company paramount to any they may have held in the securities of the Richmond and Danville Company or of such underlying bonds and shares as may be indorsed or otherwise guaranteed by the Richmond and Danville Company.

The securities deposited as collateral for the bonds and preferred stock of the Terminal Company are almost entirely subordinate and junior liens to each and every indorsement and guarantee of the Richmond and Danville Railroad Company and cannot be enforced until your prior claims are satisfied.

THE RICHMOND AND DANVILLE UNDERLYING BONDHOLDERS' COMMITTEE has adopted the following general plan of operations, which shall guide it in its future work:

"1. It proposes to act for all the divisional bondholders of the Richmond and Danville system, omitting none, and it will call for the pooling of the bonds of the various divisions only when, in the judgment of the committee, it may be necessary so to do in order to carry out its general purpose.

"2. In the judgment of this committee it is for the best interest of the bondholders of the roads in the Richmond and Danville System that the integrity of the system should be preserved, and if it should become necessary to sell the property for the payment of its debts, it should be sold as an entirety; but should the committee deem it wise, or should a majority in interest of the securities in default on any of the divisional properties which may be deposited with the committee so request, then the committee will endeavor to secure a separate sale of such divisional property, and, if need be, will mature a plan for the purchase and separate reorganization of such divisional property.

"3. The committee will undertake to represent in the pending litigation the interests of all the bondholders whose bonds may be deposited with it, and will take whatever steps it may deem necessary to protect their rights and to secure the payment of interest according to legal priorities.

"4. The work of this committee shall be directed and confined solely to the protection and preservation of the interests of the holders of such bonds of the various issues called for as may be deposited with the committee."

In pursuance of this plan the committee hereby invites the holders of bonds in the Richmond and Danville system now in default to deposit the same with the Mercantile Trust and Deposit Company of Baltimore on or after the 10th day of November, under the terms and provisions of an agreement prepared by the RICHMOND AND DANVILLE UNDERLYING BONDHOLDERS' COMMITTEE and lodged with the said Trust Company, from which, or from any member of the committee, copies can be obtained.

The bonds at present in default are as follows:

Georgia Pacific Railroad Company consolidated second mortgage fives.

Columbia and Greenville Railroad Company second mortgage sixes.

Danville and Western Railroad first mortgage fives.

Asheville and Spartanburg first mortgage sixes.

Clarksville and North Carolina Railroad Company first mortgage sixes.

Oxford and Clarksville Railroad Company first mortgage sixes.

Richmond and Danville consolidated mortgage gold sixes.

Richmond and Danville debenture mortgage sixes.

Richmond and Danville consolidated mortgage fives.

The payment of \$2 per bond will be required at the time of deposit of bonds for the purpose of meeting the incidental expenses of the committee.

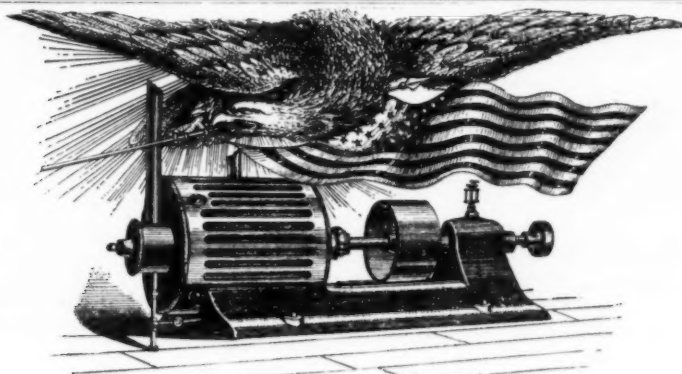
The committee earnestly advises and recommends the holders of the above bonds unite with it in this action. Your claims are enforceable and can be maintained. If you are firm and act together the securities guaranteed by indorsement or otherwise will doubtless be protected in any plan of reorganization which may be proposed, or if not, then you can protect yourselves. If, on the contrary, you are indifferent and neglect this opportunity, be assured that your claims will, as far as possible, be ignored.

The committee reminds all underlying bondholders, whether their bonds have been defaulted on or not, of the fact that the very best bonds in the system were attacked in the Oicott plan, and all indications point to an effort to force a concession from all divisional Bonds for the benefit of the holders of Terminal bonds and stocks.

J. WILLCOX BROWN,
JOHN A. WHITRIDGE,
SKIPWITH WILMER,
F. M. COLSTON,
JAS. H. DOOLEY,
JOHN B. RAMSAY,
R. M. VENABLE,
WM. H. GILL,
WM. H. BLACKFORD,
FRANK P. CLARK,
JOHN M. NELSON,

Richmond
and
Danville
Underlying
Bondholders'
Committee.

BARTON & WILMER,
VENABLE & RACKARD, } Counsel.
FRANK P. CLARK,



AMERICAN HIGH SPEED ENGINE.

This Engine revolutionizes the manner of applying steam in generating power. It can be regulated so as to run at any speed desired, up to

1000 OR MORE REVOLUTIONS PER MINUTE!

It is not a rotary Engine, yet the motion of its parts is such that there are no "dead centers." It takes steam and exhausts four times at each revolution. For

SPEED, SIMPLICITY AND ECONOMY.

this Engine has no equal. It possesses many striking advantages over all other Engines, either slow speed or so-called high speed. Its speed is closely regulated by a sensitive and reliable automatic governor. Built of any required size,

FOR ALL STATIONARY AND MARINE PURPOSES.

It can be coupled directly to dynamos, fans, blowers, fire engine and other rotary pumps; in fact, to any machine requiring great velocity. It is smooth running and noiseless. Being light and compactly built, it takes up less room than any other Engine of equal power. No heavy foundations are required. This Engine is

THE ACME OF SIMPLICITY.

No skilled engineer is required.

For further particulars and Illustrated Catalogue, call upon, or address,

AMERICAN ENGINE COMPANY,

32 RARITAN AVENUE,

BOUND BROOK, N. J.

SOUTHERN BANKS.

Below is published a list of Banks and Bankers in the Southern States, whom the MANUFACTURERS' RECORD commends to its readers:

GEORGIA.

AUGUSTA—Georgia Railroad & Banking Co., Chas. H. Phinizy, President. Capital \$4,200,000.

MACON—American National Bank Wm. H. Burden, President. Capital \$350,000.

MACON—Exchange Bank, H. J. Lamar, President; J. W. Cabaniss, Cashier. Capital and surplus \$550,000.

MACON—First National Bank, J. C. Plant, President. Capital and surplus \$350,000.

SOUTH CAROLINA.

COLUMBIA—Carolina National Bank, W. A. Clark, President. Capital \$100,000.

VIRGINIA.

BUENA VISTA—Buena Vista Loan & Trust Co., C. B. Guyer, Pres. Capital \$200,000.

C. O. Godfrey. A. W. Train.

GODFREY & TRAIN,

Investment Securities, Stocks,
Bonds, Etc.

\$500,000 Good City and County Bonds Wanted.

40 Wall Street, NEW YORK.

Southern Investments.

EDWARD MORTON & CO. Investment Securities,

53 Broadway,
NEW YORK.

Railroad Finance a Specialty.

Stocks, Bonds and Loans.
Construction Material and Equipment.
Street Railroads.
Municipal Bonds and Industrials.

JOHN L. WILLIAMS & SON, BANKERS.

RICHMOND, VA.

Our Manual of Investments for 1890, the largest work of the kind published by any banking house in America. (406 pages, octavo, cloth,) may be had without charge by clients, correspondents and those expecting to do business with us; by others at 12 per copy.

H. J. von Hemert. G. L. Boissevain

von HEMERT & CO.

Bond and Stock Brokers,

30 Campbell St., S. W., ROANOKE, VA.

INVESTMENTS IN THE SOUTH.

Exchange Banking & Trust Co.

CHARLESTON, S. C.

Paid up Capital, \$100,000. Authorized Capital, \$1,000,000. Transacts a General Banking and Trust Business. Savings Department. Interest Allowed on Deposits.

Investments made at usual rate of commission) in safe and reliable interest paying Southern securities, and 1st mortgage loans on improved city and town real estate. Correspondence solicited as to all Southern investments. Being within easy reach of all parts of the South, thorough and careful investigation can be made of intended investments or purchases.

Officers: Geo. B. Edwards, president; P. N. Pickens, cashier; R. E. Muckenfus, secretary and treasurer; J. Lamb Peery, solicitor; Smythe & Lee, general counsel.

DIRECTORS:

A. S. J. PERRY, of Johnston, Crews & Co., wholesale dry goods.
WILLIAM M. BIRD, of Wm. M. Bird & Co., wholesale paints and oils.
JAMES ALLAN, of James Allan & Co. jewelers.
I. H. F. KORNIG, with Knapp, Frerichs & Co. cotton exporters.
Geo. B. EDWARDS, Pres. Elec. Lt. & Power Co.

All Valuable Minerals, Oils, Coals,
Ores, Gems, &c., and where to
look for them,

Described in **SMITH'S**

Pocket Geologist and Mineralogist,

Cloth Bound. 204 Pages.

Sent by mail on receipt of one dollar,

FREDERICK H. SMITH, 227 E. German St.
Name this paper. BALTIMORE, MD.

HELP WANTED.

WANTED—Practical PAPER MANUFACTURER to Superintend a large Mill in the West. State experience and salary. Correspondence confidential. Address "PAPER MILL," care MANUFACTURERS' RECORD. N25

WANTED—SECOND ENGINEER to look after Corliss Engine and Westinghouse Dynamos at night. Salary \$10.50 per week. Can get board at \$3.00 per week. Address with reference, "SECOND ENGINEER," care MANUFACTURERS' RECORD. N25

WE want to employ Two First-Class Shop Workmen experienced on Doors and can take them through the machines and do the bench work complete. Also one good Sash Maker. Apply or address ADAMS & WOODSON, Lynchburg, Va. N25

WANTED—TO LOCATE AND SECURE EMPLOYMENT FOR ALL HONEST AND INDUSTRIOUS PEOPLE WHO WANT TO COME SOUTH. WRITE FOR PARTICULARS. MCCLURE & MAXWELL, REAL ESTATE & MINERAL LANDS, KNOXVILLE, TENNESSEE.

WANTED—Salesmen visiting Saw Mills, Flour Mills and Factories to sell (side line) staple article in great demand. Pays \$50 to \$100 per month. ROYAL MFG. CO., 90 Nassau Street, New York.

SITUATIONS WANTED.

WANTED—By young man of temperate habits and energy, work. Have good education. Place as clerk or office work preferred. Salary no object. JAMES W. MARSHALL, Fredericksburg, Va. D2

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C. G. Huffman, Hollywood, Ala.
Clifton & Hendrix, Jasper, Ala.
Elliott & Carter, Jasper, Ala.
W. M. Beatty, Austin, Ala.
J. W. Ray, Arkadelphia, Ark.
Desha Lumber Co., Arkansas City, Ark.
Batesville Lumber Co., Batesville, Ark.
Russell & Elder, Beebe, Ark.
South'n Hardwood Lumber Co., Black Rock, Ark.
E. M. Ford Land & Timber Co., Gilmore, Ark.
Kelley & Wells Lumber Co., Newport, Ark.
Cream City Lumber Co., Lamberthville, Ark.
J. M. Meffert, Lowell, Fla.
Ray & Geise, Bronwood, Ga.
Altamaha Cypress Lumber Co., Brunswick, Ga.
Montford & Mitchell, Butler, Ga.
Glasgow & Henderson, Cassville, Ga.
Green & Eshum, Clay Hill, Ga.
W. H. Allen, Cordele, Ga.
Greer Bros., Ada, Ga.
D. T. Harris, Dixon, Ga.
W. T. Opie, Dover, Ga.
A. J. McMullen, Hartwell, Ga.
Matthews & Anderson, Knoxville, Ga.
R. W. Ballard, Newton Factory, Ga.
O. W. Wadley, Rogers, Ga.
L. T. Brawner, Adairville, Ky.
G. W. Hummer, Adairville, Ky.
W. Conn & Son, Bedford, Ky.
Snider Bros., Berea, Ky.
Glison & Hale, Flat Rock, Ky.
J. L. Naylor, Wickliffe, Ky.
Samuel Anglen, Lafayette, Ky.
H. E. Miller, Lewisburg, Ky.
Fetter Cochran & Co., Louisville, Ky.
J. C. Williamson, Mouth of Pond, Ky.
The Cumberland Co., Middlesborough, Ky.
Waters & Bringham, Pineville, La.
J. H. M. Bride, Winnfield, La.
The Loomis & Hart Mfg. Co., Chattanooga, Tenn.
E. Cravens, Bagwell, Texas.
Jas. M. Williams, Charlottesville, Va.
Smith & Co., Reddy Ripple, W. Va.
Shelly & Wigram, Romney, W. Va.

Shingles.
A. C. Danner, Mobile, Ala.
J. Bradley, Hartsell's, Ala.
Concub & Patsaliga Lumber Co., Luverne, Ala.
G. N. Buchanan, Luverne, Ala.
J. D. Cameron & Son, Mobile, Ala.
Mobile Shingle Co., Mobile, Ala.
Mountain & Sons, Mobile, Ala.
C. G. Richards & Son, Mobile, Ala.
Stewart & Butt, Mobile, Ala.
Gulf States Lumber Co., Montgomery, Ala.
D. Goulet & Co., Black Rock, Ark.
F. McKay, Black Rock, Ark.
Camden Shingle Mill Co., Camden, Ark.
Price Lumber Co., Paragould, Ark.
Carey & Ollinger, Bagdad, Fla.
A. L. Wellman & Co., Beresford, Fla.
Florida Shingle Mills, Brooksville, Fla.
W. Springstead & Son, Brooksville, Fla.
Mearns Shingle Mill, Davenport, Fla.
Wm. A. McCann, Jacksonville, Fla.
A. G. Russell, Oviedo, Fla.
Little & Chapman, Rosewood, Fla.
Atlanta Lumber Co., Atlanta, Ga.
P. G. Grant, Atlanta, Ga.
T. E. Collier, Cordele, Ga.
King & Bursch, Hawkinsville, Ga.
Yarbrough & Perry, Fullington, Ga.
Ino. Akers & Co., Scotland, Ga.
Baily Bros., Toccoa, Ga.
Mayfield Shingle Co., Wishart, Ga.
Worth Lumber Co., Worth, Ga.
G. W. Clere, Coalition, Ky.
Monroe Smith, McKinney, Ky.
The J. H. Poe Shingle Co., Lake Charles, La.
Harris & Thornton, Chattanooga, Tenn.
I. Miller Shingle Co., Orange, Texas.
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Nottingham & Wrenn, Norfolk, Va.
Ino. L. Roper Lumber Co., Norfolk, Va.

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J. R. Adams & Son, Longview, Ala.
Montgomery Stave & Ldg. Co., Montgomery, Ala.
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Arkansas Stave Works, Greenway, Ark.
J. F. Hasty & Son, Paragould, Ark.
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Buckus Bros., Pine Bluff, Ark.
Little Rock Cooperage Co., Little Rock, Ark.
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Hagan & Platt, Pine Level, Fla.
R. H. Brewer, Cedarblow, Ga.

Georgia & Tennessee Lumber Co., Laconte, Ga.
F. H. Waring & Co., Cement, Ga.
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Lester & Little, Sloans Valley, Ky.
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J. Beckwith & Co., Waverly, W. Va.

Railroad Ties.

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G. & A. Kopp, Louisville, Ky.
Southern Tie & Lumber Co., Louisville, Ky.
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P. L. Conquest & Co., Norfolk, Va.

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Paducah Handle Works, Paducah, Ky.
Hendersonville Mfg. Co., Hendersonville, N. C.
Rutherfordton Sp. & Hdl. F'y, Rutherfordton, N. C.
C. J. Dundas, Statesville, N. C.
Thomasville Spoke Works, Thomasville, N. C.
Johnson Bros., Brownsville, Tenn.

Southern Real Estate Directory.

For the convenience of the many readers of the MANUFACTURERS' RECORD it has been deemed advisable to collect under this head a reliable list of Realty Agencies of the Southern States. The value of such a list for the purpose of Ready Reference will immediately become apparent to all who are interested in the growth of this section.

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PROPOSALS.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., Nov. 3, 1892. SEALED PROPOSALS will be received at this office until 2 o'clock P. M., on the 1st day of December, 1892, and opened immediately thereafter, for all the labor and materials required for the Trench Excavation, Foundations, Cut Stone and Brick Work of the Basement and Area Walls, for the U. S. Postoffice Building at Burlington, Iowa, in accordance with drawings and specification, copies of which may be had on application at this office or the office of the Superintendent at Burlington, Iowa. Each bid must be accompanied by a certified check for a sum not less than 2 per cent. of the amount of the proposal. The right is reserved to reject any and all bids or to waive any defect or informality in any bid if it be deemed in the interest of the Government to do so. All proposals received after the time stated will be returned to the bidders. Proposals must be enclosed in envelopes, sealed and marked "Proposal for Trench Excavation, Foundations, Cut Stone and Brick Work of Basement and Area Walls, &c., for the U. S. Postoffice Building, Burlington, Iowa," and addressed to W. J. EDBROOKE, Supervising Architect.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., Nov. 3, 1892. SEALED PROPOSALS will be received at this office until 2 o'clock P. M., on the 20th day of November, 1892, and opened immediately thereafter, for all the labor and materials required for the Interior Finish of the U. S. Court-house, Postoffice and Custom-House Building at Bay City, Michigan, including Furring, Lathing, Plastering, Iron Stairs, Marble Work, Joinery Work, Wood Flooring, Glass, Hardware, Painting, Polishing, &c., in accordance with the drawings and specification, copies of which may be had on application at this office or the office of the Superintendent at Bay City, Michigan. Each bid must be accompanied by a certified check for a sum not less than 2 per cent. of the amount of the proposal. The right is reserved to reject any or all bids, and to waive any defect or informality in any bid if it be deemed in the interest of the Government to do so. All proposals received after the time stated will be

returned to the bidders. Proposals must be enclosed in envelopes, sealed and marked "Proposals for Interior Finish of the U. S. Court-house, Postoffice and Custom-House Building at Bay City, Michigan," and addressed to W. J. EDBROOKE, Supervising Architect.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., Nov. 3, 1892. SEALED PROPOSALS will be received at this office until 2 o'clock P. M., on the 30th day of November, 1892, and opened immediately thereafter, for all the labor and materials required for the Trench Excavation, Foundations, Cut Stone Work and Brick Work, Iron and Wood Floor, Ceiling and Roof Construction, Roof Covering, etc., for the United States Postoffice Building at Fremont, Neb., in accordance with drawings and specification, copies of which may be had on application at this office or the office of the Superintendent at Fremont, Neb. Each bid must be accompanied by a certified check for a sum not less than 2 per cent. of the amount of the proposal. The right is reserved to reject any or all bids and to waive any defect or informality in any bid if it be deemed in the interest of the Government to do so. All proposals received after the time stated will be returned to the bidders. Proposals must be enclosed in envelopes, sealed and marked "Proposal for the Trench Excavation, Foundations, Cut Stone and Brick Work, Iron and Wood Floor, Ceiling and Roof Construction, Roof Covering, etc., for the U. S. Postoffice Building at Fremont, Neb.," and addressed to W. J. EDBROOKE, Supervising Architect.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., November 3, 1892. SEALED PROPOSALS will be received at this office until 2 o'clock P. M., on the 6th day of December, 1892, and opened immediately thereafter, for all the labor and materials required to build complete the Superstructure (except plumbing, heating apparatus and approaches) of the U. S. Court House and Postoffice Building at Martinsburg, W. Va., in accordance with the drawings and specification, copies of which may be had at this office or the office of the Superintendent at Martinsburg, W. Va. Each bid must be accompanied by a certified check for a sum not less than two per cent. of the amount of the proposal. The right is reserved to reject any and all bids and to waive any defect or informality in any bid, if it be deemed in the interest of the Government to do so. All bids received after the time stated will be returned to the bidders. Proposals must be enclosed in envelopes, sealed and marked "Proposal for the erection and completion (except plumbing, heating apparatus and approaches) of the U. S. Court House and Postoffice Building at Martinsburg, W. Va., and addressed to W. J. EDBROOKE, Supervising Architect.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., November 3, 1892. SEALED PROPOSALS will be received at this office until 2 o'clock P. M., on the 2d day of December, 1892, and opened immediately thereafter, for all the labor and materials required for the Cut Stone and Brick Work of the Superstructure of the U. S. Postoffice, etc., building at Worcester, Mass., in accordance with drawings and specification, copies of which may be had on application at this office or the office of the Superintendent at Worcester, Mass. Each bid must be accompanied by a certified check for a sum not less than 2 per cent. of the amount of the proposal. The right is reserved to reject any or all bids and to waive any defect or informality in any bid should it be deemed in the interest of the Government to do so. All proposals received after the time stated will be returned to the bidders. Proposals must be enclosed in envelopes, sealed and marked "Proposal for Cut Stone and Brick Work of the Superstructure of the U. S. Postoffice, etc., Building at Worcester, Mass.," and addressed to W. J. EDBROOKE, Supervising Architect.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., November 3, 1892. SEALED PROPOSALS will be received at this office until 2 o'clock P. M., on the 8th day of December, 1892, and opened immediately thereafter, for all the labor and materials required for the erection and completion (except plumbing and heating apparatus) of the extension to the U. S. Courthouse, Postoffice, etc., Building at Dallas, Texas, in accordance with the drawings and specification, copies of which may be had on application at this office or the office of the Superintendent at Dallas, Tex. Each bid must be accompanied by a certified check for a sum not less than 2 per cent. of the amount of the proposal. The right is reserved to reject any or all bids, and to waive any defect or informality in any bid if it be deemed in the interest of the Government to do so. All proposals received after the time stated will be returned to the bidders. Proposals must be enclosed in envelopes, sealed and marked "Proposal for the Erection and Completion (except plumbing and heating apparatus) of the Extension to the U. S. Courthouse, Postoffice, etc., Building at Dallas, Texas," and addressed to W. J. EDBROOKE, Supervising Architect.

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These mines are of ancient discovery and were worked with great profit for a long period, being only abandoned on account of political troubles before and after the war of liberation.

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These mines are so richly endowed with auriferous material, from the easily-worked sand, gravel, and dirt, (carrying virgin dust and nuggets), to the fissure veins of free milling quartz, that when properly equipped a profit of ten thousand dollars (\$10,000) a day or over three million dollars (\$3,000,000) annually is a very low and conservative estimate.

There is an abundance of timber and unending water power, with a genial and healthy climate.

It is proposed to organize this property on a basis of five million dollars (\$5,000,000), upon which there can be dividends earned of 60 per cent. or more, and the parties furnishing the original capital in small or large sums for this organization, which will be about twenty five thousand dollars (\$25,000), will be let in on a basis of two and a half cents (2½c.) on the dollar, with the privilege of purchasing pro rata at five cents (5c) on the dollar a sufficient amount to give them a controlling interest if they so desire.

There is also the right of prior possession to double the amount of contiguous land which will swell the property to about seven thousand, five hundred (7,500) acres.

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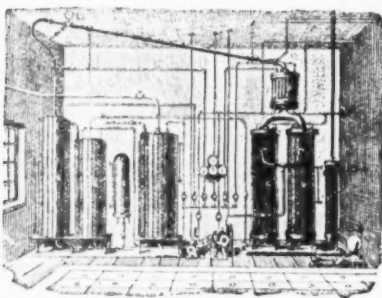
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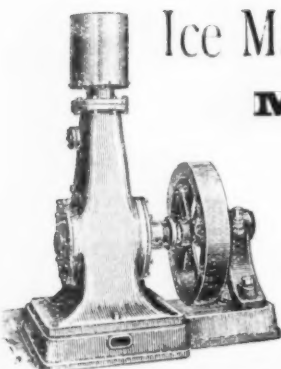
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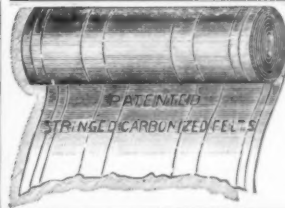
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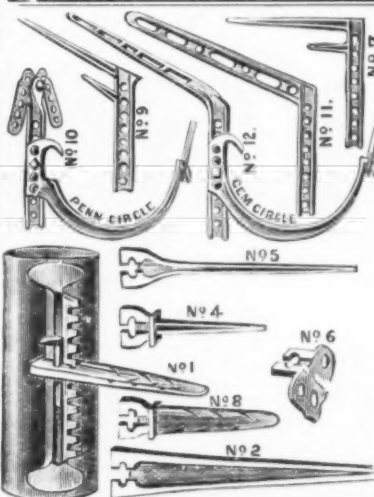
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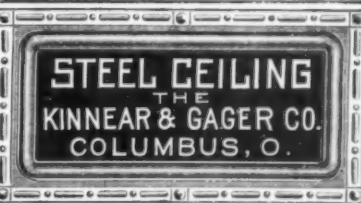
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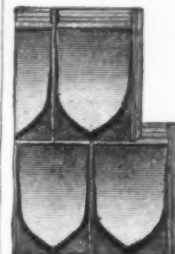
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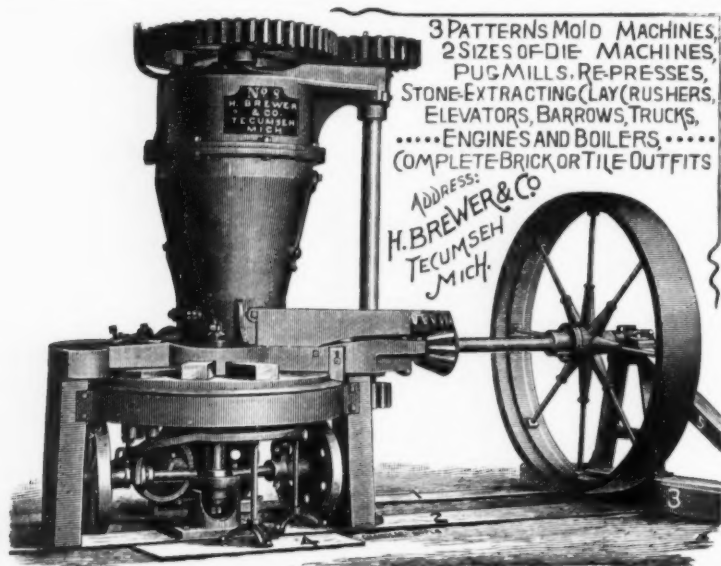
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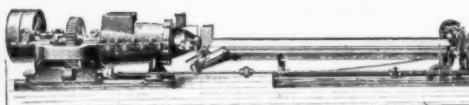
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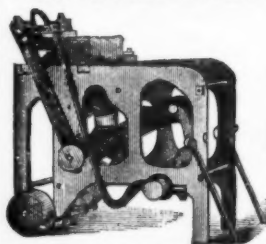
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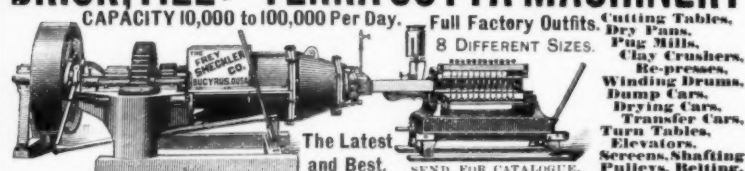
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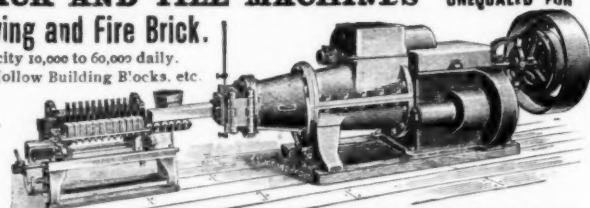
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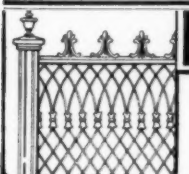
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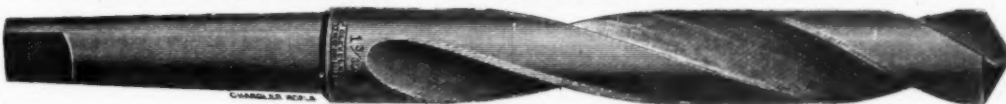
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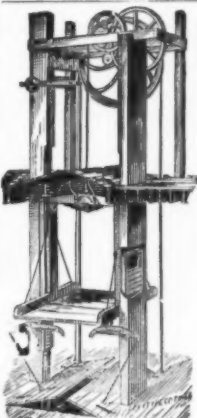
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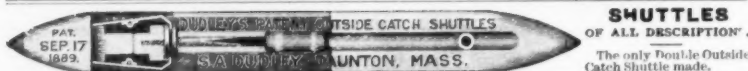
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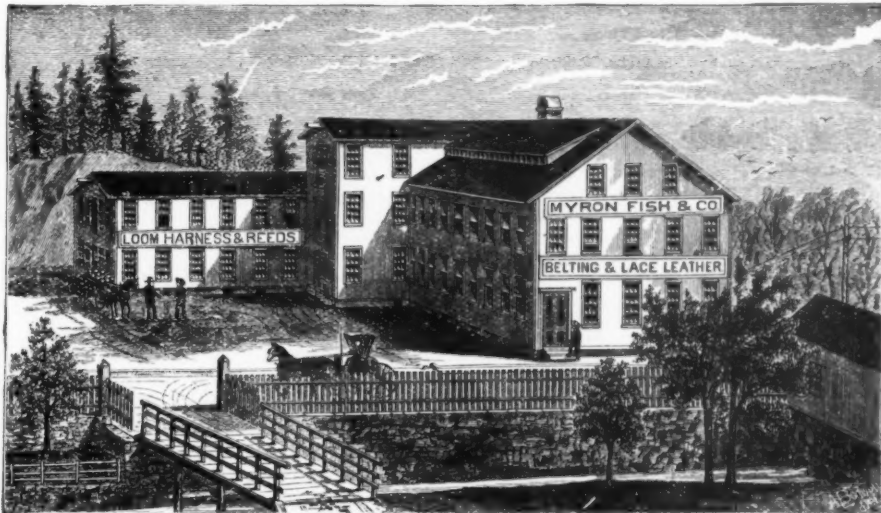
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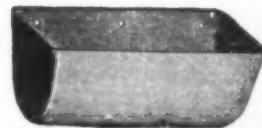
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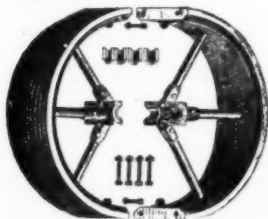
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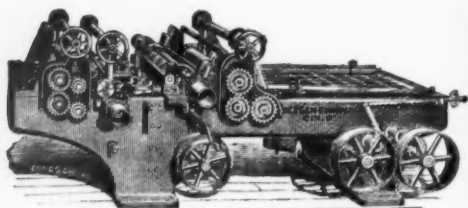
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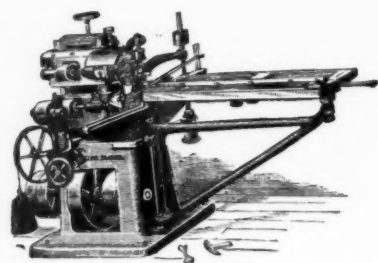
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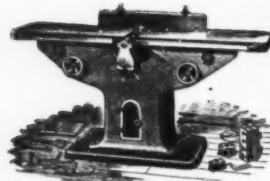
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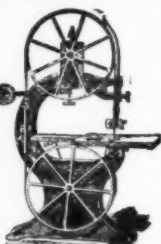
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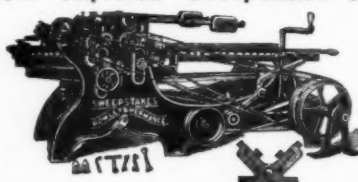


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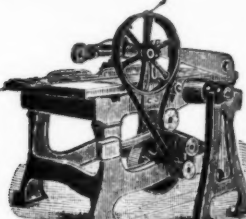
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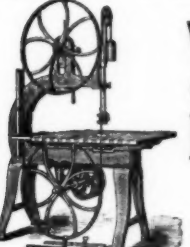
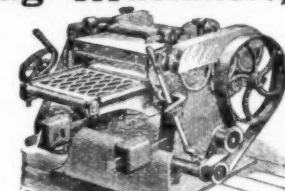


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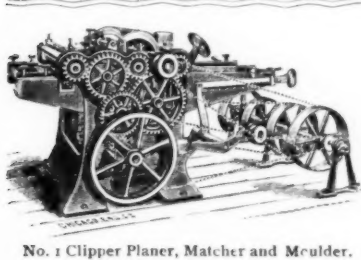



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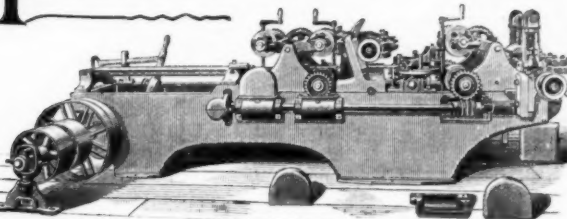


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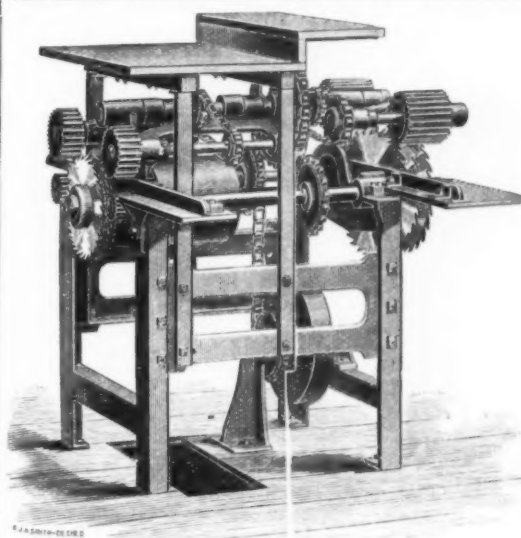
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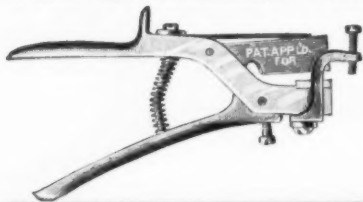
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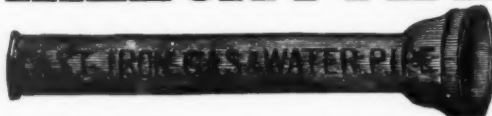
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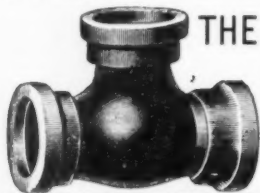
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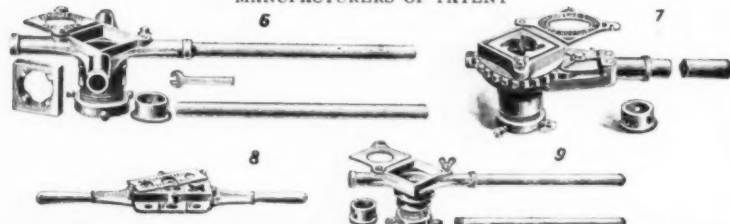
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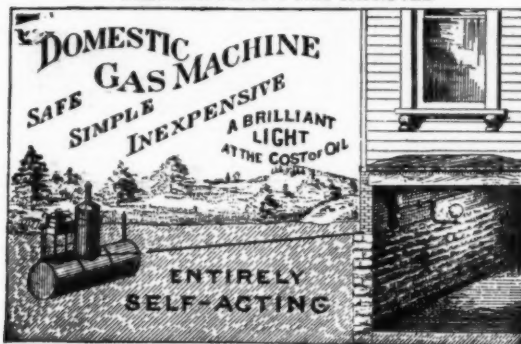
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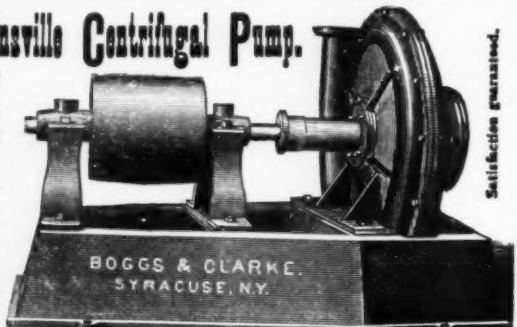
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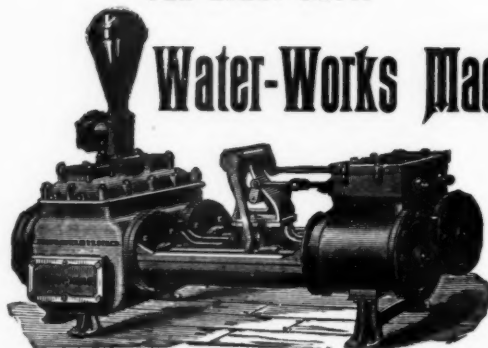
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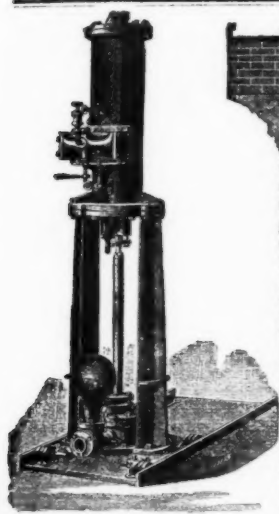
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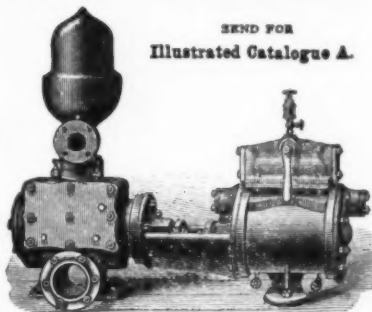
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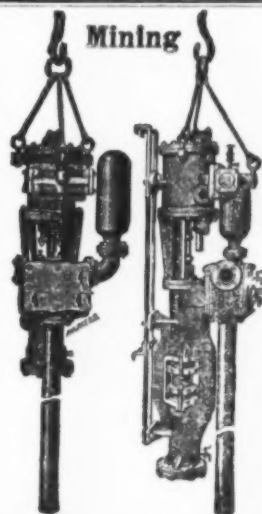


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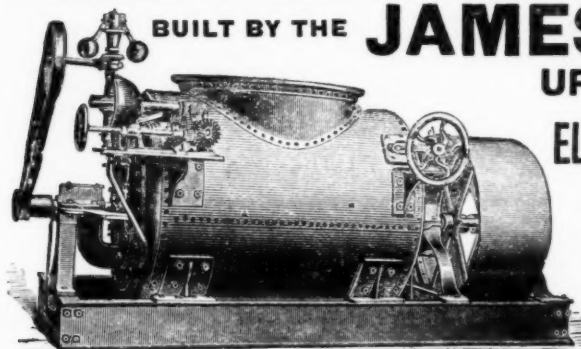
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burg, Miss.; New Orleans, Delhi, Monroe, and
Shreveport, La. Some of the new towns will
donate money and land to locate Manufacturing
enterprises.

The R. R. Co. will make low rates for
Passengers and Freight, and afford invest-
ors every opportunity to examine the dif-
ferent localities. If necessary, will send a
representative with the party.

Full particulars, and any required information,
will be sent by mail on application to

D. G. EDWARDS, G. P. & T. Agt.

Q. & C. Route, CINCINNATI, O.

ATLANTIC TRANSPORT LINE.

BETWEEN BALTIMORE AND LONDON.

Calling at Swansea and Philadelphia on the
outward passage.

S.S. Minnesota, 5,000 tons. S.S. Missouri, 4,200 tons

S.S. Maryland, 4,200 tons. S.S. Michigan Bldg.

S.S. Montana, 4,200 tons. S.S. Mississippi Bldg.

S.S. Maine, 4,150 tons.

BALTIMORE STORAGE & LIGHTERAGE CO.

235 La Salle Street, and 10 Fenchurch Street,
Chicago, Ill. London.

400 Second Street, Baltimore, Md.

RICHMOND AND YORK RIVER LINE.

On and after MONDAY, February 23, 1892, the
steamers of this line leave Baltimore daily (Sun-
day excepted) at 5 P. M. for West Point, Rich-
mond and the South, arriving at Richmond at
9.10 A. M., connecting with trains of the Rich-
mond & Danville System. Steamer leaving
Mondays, Wednesdays and Fridays calling at
Gloucester Point and Allmond's Wharf; steamer
leaving Tuesdays, Thursdays and Saturdays
calling at Yorktown and Clay Bank. Through
tickets and bills of lading issued to all points of
the Richmond & Danville System. Way freight
must be prepaid. Fare to Richmond, first class,
\$2.00, second class, \$1.50. Tickets so if and bag-
gage checked at Geigan & Co.'s, 205 East Bal-
timore Street.

REUBEN FOSTER, E. J. CHISM,
General Manager. Gen'l Freight & Ticket Agt.
Office, 530 LIGHT STREET.

THE BAY LINE

FOR

Fortress Monroe, Norfolk and the South.

The Bay Line comprises the New and Elegant Steamers

"VIRGINIA," "CAROLINA" and "FLORIDA."

All the Comforts and Luxuries of a first-class Hotel are
afforded the traveler. 8 cabins and elegant saloons and
staterooms, furnished with an especial view to comfort.
Unsurpassed Cuisine, which is made a specialty with this
line. Elegant service and courteous attention. Steamers
leave Baltimore daily (except Sundays) at 9 P. M.
At Old Point Comfort is located the splendid HYGEIA
HOTEL, a delightful resort at all seasons of the year.
For tickets and information apply at Company's Office,
157 W. BALTIMORE STREET, BALTIMORE.

Or on Board of Steamers.

D. J. HILL, Superintendent, E. BROWN, General Ticket Agent.

THE FAVORITE PASSENGER ROUTE.

MERCHANTS & MINERS'

Transportation Company.

Steamers sail from Baltimore, Md., TO BOSTON,
MASS., VIA NORFOLK, every TUESDAY,
THURSDAY and SATURDAY at 2 P. M.
FARE—First-Class, \$10.00 Round Trip, \$20.00.
Second-Class, \$8.00.

FOR PROVIDENCE, R. I., every TUESDAY
and THURSDAY at 2 P. M.

FOR SAVANNAH, GA., every TUESDAY and
FRIDAY at 2 P. M. Fare—First class, \$15.00;
round trip, \$25.00; second class, \$10.00.

Baltimore TO JACKSONVILLE, FLA.—First
class, \$20.65; round trip, \$36.30; steerage, \$12.50.

All tickets include meals and stateroom accom-
modations. Through tickets sold and baggage
checked to all points South.

For sailing schedules and other information,
apply to

A. L. HUGGINS, Agent,
Foot of Long Dock, Baltimore, Md.

J. C. WHITNEY, Traffic Manager,
No. 216 Water Street, Baltimore, Md.

MURRELL'S LINE

FROM

BRUNSWICK to LIVERPOOL and BREMEN.

The Only South Atlantic Direct Line to European Ports.

SHORTEST ROUTE TO EUROPE.

Commencing September 30th, 1892, the follow-
ing Steamships will make regular sailings from
Brunswick, Ga., to Liverpool and Bremen:

Steamship.	Tons.	Master.
WIVENHOE.	1893	CLARK
HAY-GREEN.	1869	BLACKLAW,
J. M. LOCKWOOD.	1772	JENKINS,
STORRA-LEE.	1734	BAILEY,
DEERHILL.	1733	BAINBRIDGE.

Additional Steamships will be placed on the
line as business warrants.

S. S. DEERHILL will sail from Liverpool for
Brunswick September 1st.

S. S. HAY-GREEN will sail from Brunswick for
Liverpool September 30th.

Consignments solicited to all points in United
Kingdom and Continent of Europe.

For Freight, Passage and general information
apply to

THE BRUNSWICK TERMINAL CO.

General Agents, BRUNSWICK, GA.

Or Messrs. C. E. DeWolf & Co., Agents,
28 Brunswick Street, Liverpool, England.

POPULAR AND DIRECT ROUTE.

THE BAY LINE

For Old Point Comfort, Norfolk
and the South.

Steamers leave daily (except Sunday) Union
Dock 6.30 P. M. Canton Wharf 7 P. M.; arrives
Old Point Comfort 7 A. M. at Norfolk at 8 A. M.
Portsmouth 8.15 A. M. At OLD POINT COM-
FORT connect with CHESAPEAKE & OHIO
RAILROAD for Richmond, Charlottesville,
Greenbrier, White Sulphur Springs, Louisville,
Cincinnati and all points West. At NORFOLK
with NORFOLK & WESTERN RAILROAD for
Petersburg, Richmond, Lynchburg, Roanoke,
Bristol, Knoxville, Chattanooga, Memphis and
the Southwest; also with the NORFOLK
SOUTHERN RAILROAD for Elizabeth City,
Edenton and Eastern North Carolina. At
PORTSMOUTH, VA., with SEABOARD &
ROANOKE RAILROAD for Weiden, Raleigh,
Southern Pines, Pine Bluff Health Resort, Peach-
land, Mount Holly, Charlotte, Fayetteville, New-
berne, Wilmington, Charleston, Columbia, Aug-
usta, Savannah, Jacksonville and all PRINCIPAL
SOUTHERN CITIES.

Palace Steamers, Unsurpassed Cuisine, Undis-
turbed Night's Rest. See Connections.

For tickets and information apply at Com-
pany's Office, 129 E. Baltimore Street,
or on board steamers.

E. BROWN G. T. A. KENFON JONES, Agt.

NORTH WILKESBORO,

NORTH CAROLINA,

One of the Conspicuous Successes of the Year in Town Building,
Presents the Following Record:

Population March 4, 1891, actual count, 48.

Population March 4, 1892, actual count, 348.

Gain in one year 625 per cent.

Townsite purchased November 11, 1890; act of incorporation passed by the Legislature, March 4, 1891; first lot sold at private sale, May 12, 1891. Within the first year of its existence ten miles of streets have been graded, and \$22,000 spent in public improvements. Where prior to March 4, 1891, there was only a farm settlement without pretensions to being even a village, there is to-day a thriving, busy, growing, trading and manufacturing center, with

A Large Well-Kept Hotel,
The Bank of North Wilkesboro, \$40,000 Capital,
A large Livery and Sale Stable,
Two Large Wholesale Stores,
One Hardware Store,
One Furniture Store,
Ten General Merchandise Stores,
Three Saw Mills, Sash and Blind Factories,
One Foundry and Machine Shop,
A Handsome, Well-Edited, Home Print Newspaper, The North Wilkesboro News,
One School,
Two Churches Under Way,

Two Brick Yards in operation, and a number of other enterprises practically secured.

Arrangements are about completed for a Woolen Mill.

A large iron front brick block, containing Bank Building, two Store Rooms, Opera House, and Printing Office; A graded School Building and an Iron Bridge across the Yadkin River, in the Eastern part of town, will be completed during the spring and summer.

Turnpike roads to Tennessee and Virginia are about completed; county roads leading into town are being improved and numerous good new ones built, with the intention of making this the center for all the wagon trade of this section.

A tobacco warehouse for the sale of the high grade leaf of this district will be built during the summer, so as to give a home market for the tobacco crop that will be grown this year.

Compare this record with that of any other new town you have heard of during the past dull season.

NORTH WILKESBORO,

Is 75 miles west of Winston-Salem, at the present terminus of the Northwestern North Carolina Railroad, which when ultimately completed to Bristol, Tenn., will give the shortest route between Norfolk and Cincinnati. North Wilkesboro is the most important trading point between Winston-Salem and Bristol, and is in the center of the great undeveloped mineral and timber district of Northwestern North Carolina, being by United States Postal Map on an air line 75 miles southeast of Bristol, 45 miles east of Cranberry, N. C., 40 miles north of Statesville, 45 miles northeast of Hickory, 90 miles northeast of Asheville, 45 miles southeast of Mt. Airy, and 80 miles south of the Norfolk & Western Railroad, in the valley of the Yadkin, between the Brushy Mountains on the South and the Blue Ridge on the North. Climate, healthfulness, water, drainage and location unsurpassed by any town in North Carolina.

The townsite consists of 1,088 acres, located, by the way on a farm originally owned by General John B. Gordon's grandfather. The first public auction sale of lots was held December 2, 1891, and 188 lots were sold. Purchasers have in many cases been able to resell at a handsome profit. The company has sold 50 lots at private sale since then, on many of which houses are now being erected. It is a significant fact that among the business buildings erected a large per cent. are substantial brick structures, while for architectural beauty and cost many of the residences are much superior to those usually found in a town so young.

At the second auction sale, May 11th, 1892, 35 business lots and 44 residence lots sold for \$16,490, an average of \$8.35 per front foot, which is \$2.53 per front foot (or 44 per cent.) more than the average at the sale last December, which was the best sale made in North Carolina during last year. Since the sale, a contract has been closed for the location of another large saw mill, planing mill, sash, door and blind factory combined, which will do a large shipping business. A contract is closed for the location of extract works with a capital stock of \$300,000. The plant will cost \$125,000 and will cover six acres of land. Twelve families from the North will move down. The company will erect a large electric-light plant in connection with the extract works. North Wilkesboro will get there and will not be long doing so.

Through the townsite runs a stratum of serpentine stone, 200 feet in width, and also a bed of iron ore equal in quality to that of Cranberry. The Town Company also owns 4,100 acres of mineral, granite and timber lands in Wilkes County. It is probable that the work of developing the great mineral and timber interests of the section will be commenced in a short time, and on an extensive scale.

Sites will be donated and stock subscribed to such manufacturing enterprises as may be advantageously located here.

The policy of the Company is a most liberal one in this respect, it being determined to aid all legitimate enterprises to any reasonable extent. There are 328 miles of water courses within the borders of Wilkes County, furnishing to the vicinity of North Wilkesboro a water power as great as Fall River. The climate, while not moist, is neither harsh nor dry, and is especially suitable to the spinning of fine cotton yarns, such as cannot be made in the extreme South or North. There is also a fine opportunity here for bleacheries, to the establishment of which at Southern points there is a tendency at present. As they can't go where sluggish streams, impregnated with vegetable matter, abound, the quick flowing streams of clear mountain water, so numerous about North Wilkesboro, afford everything desired. Numerous other industries will do well at North Wilkesboro, and will be most substantially encouraged to locate there.

Capitalists, Home Seekers, Health Seekers, Manufacturers of wood and iron, and many other industrial workers may well investigate North Wilkesboro's advantages.

The above-described townsite and other property belongs to the Winston Land & Improvement Co., which was chartered by act of Legislature, session of 1887; ratified March 4, 1887, chapter 82. Authorized capital \$1,000,000. Present capital stock \$125,000, all subscribed and paid up.

OFFICERS—G. W. HINSHAW, President, of Hinshaw & Medearis, Wholesale Merchants; Vice-President People's National Bank, Winston, N. C. DR. W. L. BROWN, Vice-President, of Brown Brothers, Tobacco Manufacturers, Winston, N. C. W. F. TROGDON, Secretary and Treasurer, North Wilkesboro, N. C.

BOARD OF DIRECTORS—GEO. W. HINSHAW, Winston, N. C. MAJ. CHANNING M. BOLTON, Chief Engineer Richmond & Danville Railroad, Washington, D. C. P. H. HANES, of P. H. Hanes & Co., Tobacco Manufacturers, Winston, N. C. COL. J. M. WINSTEAD, Cashier Piedmont Bank, Greensboro, N. C., and President H. P. Scales Tobacco Co., Atlanta, Ga. A. A. FINLEY, ESQ., Mayor of North Wilkesboro, N. C.

ATTORNEYS—T. B. FINLEY, ESQ., North Wilkesboro, N. C. HON. C. B. WATSON, Winston, N. C. HON. J. C. BUXTON, President First National Bank, Winston, N. C. HON. W. W. BARBER, Wilkesboro, N. C.

PLATS, PRICES AND ANY DESIRED INFORMATION PROMPTLY FURNISHED ON APPLICATION TO

W. F. TROGDON, Secretary and Treasurer,

NORTH WILKESBORO, N. C.

As A LOCATION for Manufactures

Of Iron and Wood and for General Industrial and
Business Enterprises.

FRONT ROYAL, VA.

INVITES INVESTIGATION.

Its location, at the junction of the Norfolk & Western Railroad (Shenandoah Valley line) and the Richmond & Danville's branch, give it excellent transportation facilities. It is only a few hours' ride distant from Washington. The Norfolk & Western's direct line to Washington will be built from Front Royal.

There is no Finer Agricultural Country in the World than the Famed Shenandoah Valley, in which Front Royal is Located.

A WIDE RIVER WITH SWIFT CURRENT FURNISHES WATER POWER
AND MAKES DRAINAGE PERFECT.

Front Royal is a Prosperous Town, with an Extensive Mercantile Business
and Many Manufacturing Enterprises in Operation and
Under Construction.

INVESTIGATION OF ITS ADVANTAGES IS INVITED BY THE

Front Royal--Riverton Improvement Company,

FRONT ROYAL, VIRGINIA.

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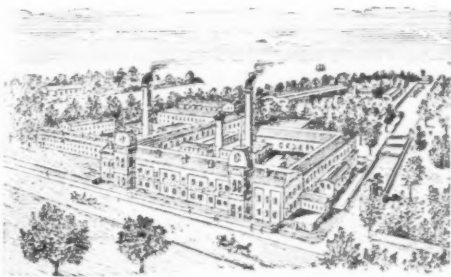
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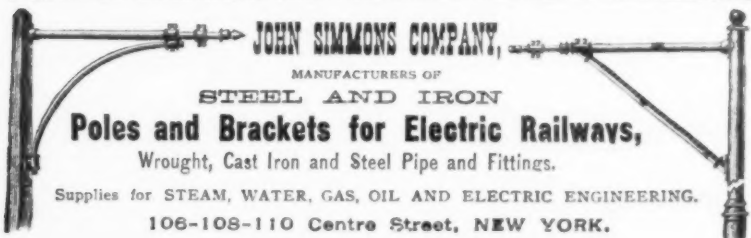
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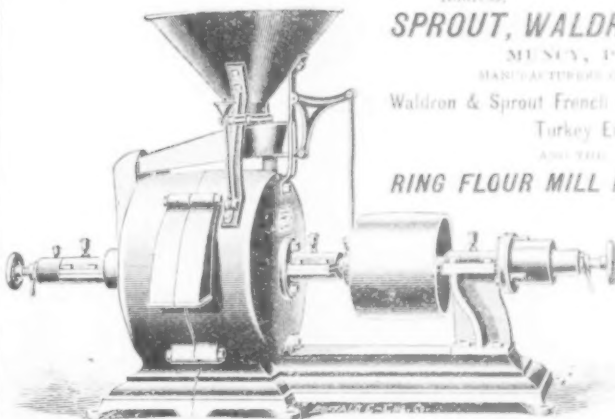
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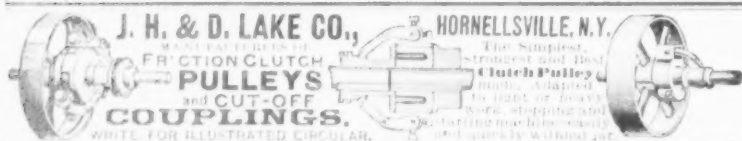
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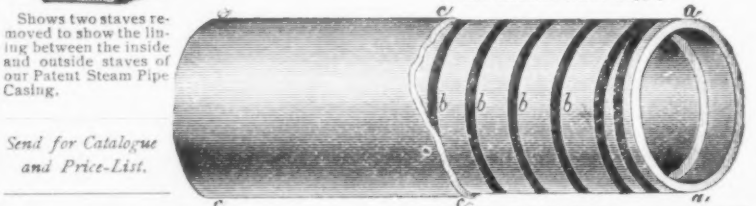
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